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ORIGINAL ARTICLES.

APPENDICITIS AND TYPHOID FEVER.

REPRINTED BY H.A. HARE, M.D.,

OF PHILADELPHIA:

PROFESSOR OF THERAPEUTICS IN THE JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA.

My object in writing this very brief paper is to present a clinical condition which I have met with sufficient frequency to make me consider it by no means rare, and which has never failed to puzzle me. I refer to two groups of cases, *viz.*: (1) Cases in which symptoms, developing in the neighborhood of the appendix, indicate the rapid development of appendicitis, yet in which these symptoms gradually subside and the patient gradually passes into an attack of typhoid fever, and (2) cases already well advanced in the progress of typhoid fever which develop appendicular symptoms.

The first group of cases is well represented by the following histories: A young man, twenty-one years of age, came under my care with a history that he had not been feeling well for several weeks, during which time he had some headache. He stated when first seen by the resident physician that he had pain in the left hypochondrium, but when I examined him the pain was chiefly in the right hypochondrium and in the epigastrium, although the entire belly seemed unduly sensitive. Pressure upon the area of the appendix increased the pains already referred to, which in my experience is usually the case in appendicitis, and discovered excessive pain in the appendicular region. The temperature was slightly febrile, the pulse quick and the belly scaphoid. A rectal examination did not evince any pain in the neighborhood of the appendix, seemingly because the finger of the physician could not reach high enough. The next day the pain was markedly accentuated and more limited to the neighborhood of McBurney's point, and the belly was distinctly hard and board-like. I therefore asked Dr. Keen to see him and he agreed that the symptoms were indicative, but, as it was not convenient to operate at once, suggested that we wait till the afternoon. A few hours later the symptoms seemed so typically those of appendicitis that, as Dr. Keen was away, I asked Dr. Hearn to examine him. Dr. Hearn, in whose diagnosis we all have great confidence, at once stated that the symptoms were typical and agreed to operate, but just before the operation, we both remarked that the patient's tongue looked somewhat typhoidal and so postponed the operation once more, deciding that in the meantime the treatment already instituted, namely, the administration of a mild saline and the use of an

ice-bag over the appendix, be continued for another night.

I confess that this proposition did not seem to me a very wise one, for, although I recognized the strong possibility that the case was one of early typhoid fever, this fact in no way appeared to me to modify the necessity for an operation for appendicitis, because it was perfectly possible that by coincidence, appendicitis was complicating the onset of typhoid fever. And again, it was possible that there might be typhoid infection of the appendix, producing appendicitis. Or, in other words, that the primary condition was due to the involvement of the alimentary canal in the pathological process produced by the bacillus of Eberth and particularly marked in the appendix. It did not seem to me that a suspicion of approaching typhoid fever negated an operation, when every one was agreed that the symptoms of appendicitis were present with sufficient severity not only to justify but to make necessary operative interference. I advanced these views to Dr. Hearn, who admitted that the symptoms were already severe enough to justify an operation, and who confessed that he had not a very good reason for refusing to perform it, save that the possibility of a coming attack of typhoid fever might perhaps decrease the chances of recovery from the operation, and this feeling on his part, combined with the fact that I had seen such cases get well without operation, both when they were suffering from ordinary appendicitis and when complicated by typhoid fever, led me to agree to the postponement of operative interference. On the following day the symptoms of appendicitis were no more marked than before, and, to state matters briefly, the symptoms of appendicitis gradually faded as those of typhoid fever became more and more accentuated; so that at the end of the week all of the symptoms of appendicitis had disappeared and typhoid fever was present in its fully-developed form. I could cite several other instances, but this one and that which follows seem to me sufficient as illustrating this type.

The second case was that of a boy, nine years of age, who was seized with a violent attack of pain in the lower right abdominal quadrant during a visit to the seashore. He was treated for this by rest in bed and the administration of purgatives, and on returning to Philadelphia ten days later was again taken down with pain in the neighborhood of the appendix, the development of distinct muscular rigidity over the right side of the abdominal wall, a quick pulse, and pain also in the neighborhood of the right hypochondrium and epigastrium which was increased by pressure over the appendix. In addition to

the local symptoms, the general condition of the boy was that which indicated the presence of a grave illness, and I asked Dr. Musser to see him with me in consultation, Dr. Musser agreeing with me that the symptoms were obscure but distinctly appendicular in type. This case differed from the first in that the symptoms at no time were sufficiently severe to indicate an immediate operation. But they certainly were sufficiently marked to make us think strongly of sending for a surgeon, in order that he might watch the case with us and determine when it would be wise to operate. Here, again, in the course of a few days, under the use of an ice-bag, the appendicular symptoms disappeared, and the child passed through an attack of typhoid which, considering his age, was quite severe.

There are several interesting points in regard to these cases. In the first place, it is of interest that in a certain proportion of cases of typhoid fever the illness is ushered in by symptoms which are most marked in the right lower quadrant of the abdomen. Second, the interesting question arises as to the condition of the appendix and caput coli under these conditions. Third, the further question arises as to whether or not operative interference in these cases is necessary, and, if operative procedures are instituted, whether they are advantageous or disadvantageous; and, finally, whether or not there are any conditions present in such cases which will enable us to state that the patient is suffering from a distinctly local lesion or from a general infection by the specific micro-organism of typhoid fever.

As I have stated in the beginning of my paper, I have now met with so many instances of appendicular trouble in the early stages of typhoid fever that I have come to regard it as by no means rare. In regard to the condition of the caput coli and appendix, it would seem probable that one or two conditions may be present. One of these is that of ordinary appendicitis, due to the pathological conditions which produce this disease, which happens to occur simultaneously with the onset of typhoid fever, and the other is that the case may be one of those in which the early general symptoms are mild, yet the intestinal lesions are marked. This condition is very well shown in the colored drawing in the well-known atlas of pathology by Kast and Rumpfer. In this illustration we see how ulceration in the neighborhood of the caput coli could very readily produce great tenderness, abdominal resistance, and other local symptoms closely resembling appendicitis. In other words, I believe that in such a case the physician must make a differential diagnosis between true appendicitis and the condition represented in this illustration. The question arises as to how this may be done; that it must be done is evident, because in the case of ulceration of the caput coli operative interference is not only useless but dangerous, chiefly because of the shock to the patient's system when he is already suffering from a grave infection. I must confess that I do not believe that there are very

definite clinical symptoms which will enable us to make the differential diagnosis, and I am inclined to believe that much importance should be paid to the results of examining the blood. From what we know of leucocytosis, we can rest assured that in ordinary cases of appendicitis the white blood-corpuscles will be considerably increased, whereas, on the other hand, it is a well-known fact that in typhoid fever they are not increased. And, therefore, in all probability typhoidal ulceration in the neighborhood of the caput coli, while it might produce the ordinary subjective and objective symptoms of appendicitis, would not show distinct blood-changes. This was the case in the first patient that I have spoken of to-day. An examination of his blood failed to reveal any leucocytosis and this was considered by us an important diagnostic aid. That this aid cannot, however, always guide us is proved by still another case in which the symptoms of appendicitis developed much later in the course of typhoid fever than in the two cases just described, the patient being in the third week of the disease before the positive evidences of an appendicular abscess were present. During the whole course of his illness this patient, who was a middle-aged man, complained of more or less pain in the right side of his abdomen, which was often most severe almost as far up and as deep in the back as the posterior portions of the liver and kidney. Finally, after a marked chill, distinct bulging not only in the neighborhood of the appendix anteriorly but posteriorly over the pelvic bones, with slight edema on deep pressure, forced us to operate and no sooner was an incision made in the abdominal wall than a pint and a half of extremely fetid pus escaped which contained staphylococci and the bacillus coli communis, but in which the micro-organism of typhoid fever was not found. In this patient there was a very slight leucocytosis, not sufficiently marked to justify us in positively stating that there was an acute inflammatory complication of the typhoid process, and yet the white cells were sufficiently increased to prevent us from ignoring the change in their number.

It has generally been held by physicians and surgeons within the last few years that the presence of a rapid pulse, a scaphoid belly-wall, distinct muscular resistance and violent pain are all symptoms demanding operative interference for appendicitis. And I do not think that the mere possibility of the patient being about to pass through an attack of typhoid fever is any reason in itself for refusing the patient operative relief, although I recognize, of course, that the development of typhoid fever immediately after such an operation is a grave complication.

I regret that this paper must be more suggestive than positive in its conclusions. My own feeling is that these cases of appendicitis in the early stages of typhoid fever are even more difficult to advise than ordinary cases which are certainly difficult enough, and I am, as I have already stated, at a loss how to proceed when I

meet with them in practice. Were it not for the results of examining the blood I should feel myself still more uncertain.

THE PHYSIOLOGICAL EFFECTS OF PREPARATIONS OF THE DUCTLESS GLANDS.¹

BY R. H. CUNNINGHAM, M.D.,

OF NEW YORK:

CLINICAL ASSISTANT IN NEUROLOGY IN THE VANDERBILT CLINIC,
COLUMBIA UNIVERSITY.

If the great broadness of the subject included in the title is borne in mind, I am sure that I will be pardoned for prefacing my remarks by saying that in submitting the following brief and rather disconnected résumé of the effects produced by the internal administration of the so-called extracts of these glands, I do so with the usual misgivings which always accompany the consciousness of having to deal with a subject about which, after all, comparatively few definite facts are known. Nevertheless, during the past eight years it has become undoubtedly an established fact that preparations of some of these ductless glands are endowed with very remarkable therapeutic properties, and, unlike many former fashionable drugs of questionable merit, some of these preparations have evidently come to stay and already occupy their well-merited places in our useful *materia medica*.

If the trade-lists of prominent manufacturing drug firms are consulted, we find at our disposal extensive collections of preparations of practically all of the ductless glands, all of which, generally speaking, as far as my experience goes, have been prepared from the proper tissues that they are purported to represent. Thus, the thyroid gland, the pituitary body, the thymus, the suprarenal capsule, the spleen, and other organs from various animals can all be found usually in the form of desiccated powders upon the shelves of the average modern apothecary-shop. Further, since the fact has been prominently emphasized that some of these desiccated preparations, curiously misnamed extracts, vary considerably in both constitution and physiological activity, in late years certain other preparations purporting to be the active organic constituents of the glands extracted by chemical processes have come also into extensive use, especially in Europe. Thus, the above-mentioned element of uncertainty is supposed to have been eliminated.

Although American medical literature in regard to the use of these special ductless gland derivatives is quite meager, nevertheless, I think that if the profession at large was more practically acquainted with the action of at least one of these substances, the so-called thyro-colloid described by Hutchinson,² the reports relating to the uncertainty of the action of certain thyroid preparations in cases where thyroid medication is eminently indicated would be far less numerous.

In looking over the enormous organotherapeutic literature of the past few years, one is almost overwhelmed at the extraordinary number of diseases that have been treated, generally speaking empirically, with one or more preparations of these glands. Sometimes the results, often photographically demonstrated, surpassed all preconceived anticipation, at other times the patients were benefited only enough to deserve the comprehensive term "improved," and last, but not least, in many instances although often no effect was produced by some of the substances, some patients manifested either at the beginning, or during the treatment, more or less marked symptoms of an intoxication, analogous to those generally met with in some forms of ptomain poisoning. How these remarkable well-recognized curative effects come about, scientific medicine still seeks to explain definitely, for although many theories have been advanced, all the existing explanations, broadly speaking, are still in the form of more or less unsubstantiated theory. However, the facts detailed in the various widespread papers devoted to the general and special physiologic action of these gland preparations undoubtedly indicate to us that some of them, especially the thyroid preparations, are capable of inducing a very profound increase or metabolic activity, probably both anabolic and katabolic, in the diseased human organism although in the healthy human organism the effect seems to be usually not so pronounced.

In the infancy of organotherapy it was customary to administer the soluble constituents of these glands by injecting them subcutaneously in the form of aqueous glycerin extracts, but owing to the immediate occurrence of symptoms, often of an alarming nature, such as severe nausea, syncope, profound prostration, etc., as well as the subsequent development of painful abscesses, such a method of administration has fallen practically into complete and well-merited disuse. Although many pronounced curative as well as toxic effects followed this mode of introducing these glandular constituents into the body, I shall not discuss the possible or probable explanation of such effects, for, as has been pointed out by others, this portion of the problem is not only exceedingly complex but will probably continue to remain obscure until physiologists and physiologic chemists give us more definite information regarding the exact nature of the various vital and chemical reactions that are inaugurated in the organism by the action of the ductless gland constituents. As most of these animal extracts when endowed with any general therapeutic activity seem capable of preserving their activity after absorption from the alimentary tract, I shall confine myself, necessarily very briefly, simply to the effects of the ingestion of such extracts. But before describing the effects in detail of the individual extracts, I wish to reemphasize certain remarks formerly made by myself in reference to the commercial preparations of desiccated thyroid, namely, that when we are dosing people

¹ Read before the New York Academy of Medicine, April 19, 1900.

² Hutchinson, R.; *Brit. Med. Jour.*, Jan. 23, 1897.

with these dried animal extracts it is well to bear in mind, when analyzing the resultant effects, that, generally speaking, we are giving not simple substances, but compound substances, whose activity, curative or toxic, may vary within wide limits in spite of the fact that all the said preparations emanate from the same manufacturing firm. While such variability in activity no doubt partly depends on the susceptibility of the individual recipient of the preparation, I am very sure that much of it depends on certain little-understood chemical alterations which occur in the complex organic components of these tissues during the processes incident to their formation into dried powders. Usually the method by which they are prepared is somewhat as follows: After comparatively large quantities of the glands have been accumulated in the slaughter-house they are then transferred to the preparing department or shipped, packed in ice, to some distant manufacturer, where after being freed from the superfluous fat and usually adherent dirt, they are ground up and an equal amount of salt is frequently added. This mass is then spread in thin layers in pans and placed in the desiccator, from which, after the expiration of a week or more, it is removed and finely pulverized. Ample time thus exists for subtle chemical changes to occur, and, in fact, in the case of the thyroid juice, it is well established that the normal alkaline reaction is extremely liable to become acid within one or more hours after the removal of the gland from the body of a recently-killed animal. Consequently it is not so astonishing when unexpected, very disagreeable results follow the ingestion of some of these preparations, whose mere color, often pronounced, assuredly labels them as decidedly putrefied.

As far as my personal limited experience goes with the administration of preparations of dried lymphatic glands, of the spleen, and of the ovary, I have little to say. The occasional alleged effects due to them, generally speaking, also occur with the various preparations of nuclein which doubtless is their main active ingredient. Until further definite data in regard to them are forthcoming, judgment as to whether they really produce regular and definite effects should be suspended.

Pituitary Body.—Owing to the pathologic observation, that enlargement of the pituitary gland coupled possibly with a derangement of its hypothetical internal secretion is of such frequent occurrence in acromegaly, much was anticipated at first from the internal use of this gland. Experimentally, the internal administration of the pituitary substance appears to produce an increased katabolism of tissues rich in phosphorus and poor in nitrogen. Up to the present, however, the clinical results with it apparently fail to come up to the previous anticipations. Several other observers, as well as myself, have noticed that the headache usually complained of in acromegaly is sometimes lessened, or temporarily disappears, and the patient considers for the time being that

he feels better. In the second of two cases of this disease treated by me with dried sheep's pituitary the headache apparently increased slightly, and on substituting the fresh pituitaries from sheep, calves, oxen, or pigs, for the dried, no recognizable effect seemed to be produced, although from 25 to 30 glands were given daily.

Although the intravascular injection of an aqueous extract of this body produces a temporary increase in the blood pressure, absorption of the gland through the alimentary canal does not appear to be accompanied, either in the healthy or in the diseased individual, by any blood-pressure changes that are recognizable by means of sufficiently delicate and properly calibrated arteriodynamometers and tonometers.

Suprarenal Extract.—As such an enormous quantity as two pounds of fresh suprarenal capsules, in the form of an aqueous extract, have been swallowed without apparent ill effects, the fact is quite evident that the untainted suprarenal substance, although containing ingredients which markedly influence the general blood-pressure and ultimately poison the experimental animal, when they are injected directly into the circulation, evidently loses its toxic properties when absorbed from the alimentary canal. Given internally in the usual doses of 5 or 10 grains several times a day, I can not say that I have ever been able to detect those remarkable vascular and tonic cardiac effects which are stated to follow almost immediately. Summed up, the suprarenal extract has been used with more or less varying success in disease of almost every part of the body. Applied locally to mucous membranes it undoubtedly produces very marked local but temporary vasoconstriction from its direct action upon the muscular coats of the vessels. Consequently, this useful property has been duly taken advantage of in congestive conditions of the conjunctiva, of the nose, the throat, and of other mucous membranes. Given internally, the extract seems to have benefited certain cases of asthma, cardiac trouble with diseased arteries, and several cases of Graves' disease. In three cases of the latter disease, however, which were treated by me with the suprarenal during a period of about two months, I can not say that the beneficial effects were specially striking, in fact, they were not nearly so marked as I have seen produced by phosphate of soda in combination with rest and regulation of the diet.

But in accordance with the theory of internal secretion and by analogy from the action of the juice of the thyroid gland one of whose functions seems to have been fairly satisfactorily proved to be that of contributing to the blood an internal secretion absolutely necessary to the organism, we should expect on pathologic and experimental grounds that the most striking effects of the suprarenal therapy would be met with in Addison's disease. Nevertheless, the published records of the many cases of this disease that have received a thorough trial with the suprarenal, do not, I

think, on the whole, convey the impression that our hopeful expectations have been satisfactorily realized. Owing to the pressure of other matters, and consequently lack of time for a thorough inspection of the medical literature, I have, so far, been able to collect reports of only twenty-four patients with this disease to whom the suprarenal extract had been administered. Of these one may say that none were sufficiently benefited as to be termed *cured*; 14 exhibited effects that could be designated *temporarily improved*, while 10 were practically unaffected by the treatment. Making the usual allowances, therefore, for this kind of broadly inclusive statistics, it appears to me that evidently there exists a something in the desiccated suprarenal that is capable of ameliorating, at least temporarily, some of the symptoms in about 58 per cent. of the cases of Addison's disease. Whether this something is the substance that elevates the blood-pressure when the extract is directly injected into a blood-vessel, whether it is a derivative of that substance formed from it during the process of absorption from the alimentary canal, or whether it exists as a separate, hitherto unrecognized, body in the gland, I am not prepared to judge until further comparative clinical investigations are made with the pure solutions of that substance which elevates the blood-pressure.¹

Thymus Gland.—Previously used for years as a choice and nutritious article of diet, the thymus was first introduced to the medical profession in 1893 by Macalister, who lauded the remarkable metabolic effects apparently produced by a diet of it in a case of pseudohypertrophic paralysis. Two years later Owen, Miculicz, and myself, reported several cases of exophthalmic goiter in which a thymus diet apparently produced pronounced improvement and even apparent cures. Since that time many cases have received the thymus, some with evident benefit, others apparently without effect. From the use of desiccated preparations the beneficial effects are not so apt to follow, in my experience. Thus, in ten cases of well-marked exophthalmic goiter treated by me with dried thymus in but three of them have I observed enough amelioration of the symptoms to deserve to be called improved. In these three cases the pulse-rate was reduced, the weight slightly increased, the enlarged thyroid diminished, although not to its normal size, the exophthalmus practically disappeared in two of the cases, and lessened in the third. In two other patients acute symptoms somewhat analogous to those produced by toxic thyroid preparations occurred. In another instance, after prescribing capsules of dried thymus, as the patient appeared to be more restless and complained more of cardiac palpitation, an examination of the capsules showed them to be composed of dried thyroid. Consequently, they were immediately discontinued and the disagreeable symptoms promptly sub-

sided. Of twelve patients treated with fresh lamb's thymus, or with that from young calves, all gained in weight, some of them as much as 30 pounds, in the course of three months, and one has remained apparently cured for the past six years; in another patient all the symptoms permanently disappeared except that of the large indurated goiter. In three of the patients there was no evident benefit, except an increase in weight, while of the remaining seven cases various degrees of evident improvement were manifested.

Numerous hypotheses have been advanced to explain the metabolic effects produced in these cases by the thymus, but from my point of view I think that in the present rather indefinite state of our knowledge in regard to the exact activity of the various constituents of the thymus, we should better be conservative and attribute the above-mentioned excellent results to the nutritious character of the food which such patients are receiving when they eat several ounces of slightly-cooked thymus daily.

Thyroid Extract.—Of all the various animal extracts, undoubtedly that prepared from the thyroid produces the most conclusive, regular, and striking results when it is administered in those clinical conditions which after years of painstaking labor on the part of clinicians and experimental investigators we now recognize as being due to diminished thyroid function. Thus, in myxedema, cretinism, and other conditions in which the thyroid gland is imperfectly performing its function, the administration of the ordinary preparations of dried sheep's thyroid is certainly productive of metabolic effects that may truly be termed marvelous. In such conditions the exhibition of thyroid appears, if we may judge from urinary analyses, to produce a remarkably increased disintegration of certain tissues in rich nitrogen as well as a moderate increase in the amount of excreted P_2O_5 . Concurrently with the increased metabolic activity all those pronounced and often described improvements in the symptoms become prominent. Briefly summarized these may be enumerated as follows: Disappearance of the myxedematous tissue; with return to the former normal body weight; renewed growth of the hair; return of the normal condition of the skin and mucous membranes; markedly-improved or complete restoration of mentality; increase in stature, and full restoration of the bodily strength.

Also in many other diseased conditions, such as excessive obesity, psoriasis, goiter, ovarian or uterine tumors, idiocy, and other conditions too numerous to mention, in which the thyroid extract has been used, evidently a very profound general, as well as local metabolic, activity has been produced by its use. Given in doses greater than the equivalent of fifteen grains of fresh gland, most of the dried thyroid preparations readily induce, as most of you, no doubt, have practically observed, symptoms of a more or less pronounced kind of intoxication, which in the

¹ The intravascular injection of aqueous thyroid extract produces a marked fall of the general blood-pressure, but solutions of purified thyroïdcolloid, which contain apparently all those constituents that are effective in myxedema, do not cause the blood-pressure to fall.

severe forms somewhat resemble some of the symptoms occurring in exophthalmic goiter. Usually these symptoms are practically identical with those generally met with in poisoning by chemically-altered or decomposed animal food-stuffs. Thus, one often finds reported such symptoms as increased pulse-rate, severe headache, pains in various regions of the body, profound prostration, tremor, restlessness, insomnia and even delirium, nausea, vomiting, diarrhea, glycosuria, and albuminuria, but, as I have pointed out in a former paper, the character and severity of such symptoms vary considerably and depend chiefly on the kind of preparation employed, as well as upon the individual susceptibility of the patient. For instance, during the early part of the past year I had under my care two cases of recurrent myxedema. One of these patients has had administered to her all kinds of thyroid preparations, and being apparently a very susceptible individual, she would become so profoundly poisoned in a few days by an average dose of dried thyroid extract that the treatment had to be temporarily suspended or the dose very much decreased. Generally speaking, her myxedematous condition also improves very much under such conditions, some preparations of thyroid, although profoundly toxic to her, utterly fail to influence her myxedema. On the other hand, large doses of purified colloid obtained by a slightly-modified Hutchinson¹ method from sheep's thyroid, five hours after excision, were taken without the least sign of intoxication and the myxedematous condition was rapidly dissipated. In the second case, that of a man, in spite of the considerable consumption of large numbers of the thyroid tablets of a well-known firm, and of the accompanying symptoms of a mild intoxication, the myxedematous condition slowly increased until his weight became 165 pounds. On substituting for the tablets the purified colloid in doses of three grains daily a rapid disappearance of the myxedematous condition, unaccompanied by the least symptom of intoxication, promptly followed, and at the end of six weeks the weight of the patient had returned to what he considered normal, namely, about 142 pounds. Therefore, for the above obvious reasons, I never prescribe at present the ordinary commercial desiccated thyroid preparation if I can avoid it, but prefer to use the more reliable and equally active purified *colloid*, obtained by myself from the freshly-removed thyroids of sheep by precipitating an alkaline solution of them with glacial acetic acid as advised by Hutchinson.²

With reference to the efficiency of iodothyryne, I have little to say. As far as my experience with it goes, it does not seem to be nearly as active as the colloid from which it can be readily obtained by the proper chemical treatment. In many normal, as well as diseased people, it does

not perceptibly influence the metabolism, while relatively smaller doses of colloid that contains perhaps a far less percentage of iodine will readily produce all those marvelous effects in myxedema which have been outlined in this paper.

IODIDE OF IRON IN THE TREATMENT OF CERTAIN FORMS OF INFECTIVE ARTHRITIS.¹

By J. C. WILSON, M.D.,
OF PHILADELPHIA.

THE treatment of certain forms of infective arthritis, especially gonorrheal arthritis, is notoriously unsatisfactory. The salicylates are useless either to relieve the pain or to bring the process to an end. Iodide of potassium is little better. Rest, measures to improve the nutrition, and local treatment include fixation of the joints and, later, massage and Swedish movements are rational procedures which do not, however, prevent disability and suffering, often protracted for months. Quinine, iron, and arsenic are prescribed on general principles. The treatment by dry air at high temperatures is occasionally but by no means always followed by good results. It is furthermore not available in all cases. Surgical measures, such as incision and drainage, are also sometimes useful.

For several years I have treated these cases with large doses of the syrup of iodide of iron with satisfactory results. Recently several gentlemen associated with me in clinical work have adopted this plan and bear testimony to its usefulness. A considerable number of successful cases could be collected from my hospital service and private practice in support of the plan. The clinical phenomena are, however, so variable that the mere marshalling of statistics may be misleading.

The following cases recently observed are fair examples:

Case I.—Susie S., eighteen years of age, German, unmarried, a waitress; admitted to the German Hospital, September 25, 1899. No member of her family has suffered from rheumatism. Excepting the diseases of childhood she has always had good health. Menstruation regular and normal; leucorrhea at times; no other pelvic symptoms. Denies exposure to danger of venereal infection. Pain in right shoulder and ankles, which are also lightly swollen and tender on pressure. Moderate elevation of temperature; no sweating. Was treated with salicylates and alkalis. Discharged October 21st, at her own request, improved. A diagnosis of acute rheumatism was made.

The patient was re-admitted to the hospital on the 25th of October, four days later, suffering from intense pain in the right shoulder and right knee. Moderate swelling; no redness; exquisite

¹Cunningham, R. H., Jour. Nervous and Mental Disease, June, 1899.

²Hutchinson, Jour. of Physiol., XX., 1896.

¹By the courtesy of the Committee on the Festschrift in honor of Dr. Jacobi.
Read before the Section on Practice of Medicine of the American Medical Association, Atlantic City, June 2-8, 1900.

tenderness. Signs of considerable intra-articular effusion in the knee. There was an elevation of temperature— 102° to 104° F.—of subcontinuous type. The patient's general condition was wretched. Every movement was attended with intense exacerbation of pain in the affected joints. Appetite poor. Bowels constipated. Sleep prevented by pain except after the use of hypodermic injections of morphine. The cardiac impulse feeble; not visible, but palpable in the fifth intercostal space just within the midclavicular line. A soft systolic murmur at the base. Marked venous hum on the right side.

There was marked leucocytosis, gradually decreasing, as follows: November 8th, hemoglobin 65 per cent., erythrocytes 5,150,000, leucocytes 31,200; November 18th, hemoglobin 49 per cent., erythrocytes 4,070,000, leucocytes 23,200; November 23d, 61 per cent., erythrocytes 4,780,000, leucocytes 9,200; November 29th, hemoglobin 61 per cent., erythrocytes 5,580,000, leucocytes 7,200.

On the 8th of November the knee was aspirated and a clear straw-colored fluid obtained which yielded on culture a growth of staphylococci but no gonococci. On the same date an examination of the pudenda revealed an inflammatory condition of the mucous membrane with great redness and tenderness and a copious whitish discharge. The cover slip preparations from this discharge failed to show the presence of gonococci. The hymen was absent.

During the course of the case, namely, on November 4th, a splotchy erythematous rash appeared, first upon the face and neck, then upon the arms and hands, later upon the body and lower extremities. This eruption was not attended by pain or itching. On the third day after its appearance some of the spots became petechial and two days later many petechiæ showed themselves. This rash gradually faded out and had disappeared by November 19th. It was attributed to the sodium salicylate.

The urine was markedly albuminous and contained epithelial, hyaline, and granular casts and an excess of indican. At the time of the patient's discharge the urine contained a trace of albumin but no casts.

The treatment in this case from the time of admission until November 9th, a period of sixteen days, consisted in the free administration for a time of sodium salicylate in combination with sodium bicarbonate; later of sodium salicylate alone, 6 grams, afterwards increased to 9 grams, in twenty-four hours, in connection with phenacetin. Later oil of wintergreen was given in full doses. The local symptoms were unaffected by this treatment and the general condition became steadily worse until November 9th, from which time all other medication was stopped and the patient was given syrup of the iodide of iron in increasing doses. The dose was at first 2. t. d. In the course of a day or two the dose was increased to 3. t. d. and again shortly to 4. t. d. and finally to 4. q. die; and with this dosage

practically a teaspoonful four times a day, the medicine was continued until the patient's discharge from the hospital.

Within a few days from the beginning of this treatment there was notable improvement not only in the general condition but in the arthritis. The temperature gradually fell and on November 21st reached the normal, from which it did not again rise. By the 19th the eruption had wholly disappeared. Upon the 20th it was noted that the peri-articular effusion was no longer present. Prior to this, pain and tenderness had ceased and in the course of a few days the function of the affected joints was restored and the patient was able to be out of bed. On the 20th a ten-per-cent. ichthyol ointment was applied to the knee-joint and continued for some days.

Case II.—John H., twenty-two years of age, a chairmaker by occupation, was admitted to my ward in the Pennsylvania Hospital September 24, 1890. The patient said that he had suffered from inflammation of the stomach when a child, but otherwise had had good health. He had never had rheumatism. Had used alcohol at times to excess. Had gonorrhea about a year ago, the discharge lasting about two months. Since that time the patient had not been in very good health. About two weeks prior to admission began to feel tired and suffered from headache; had some diarrhea and was unable to work. Presently there developed stiffness of the joints with great pain, which prevented him from sleeping. The first joint implicated was the left knee; later the shoulders, the other knee, and the joints of the fingers. Upon admission the patient had fever, restlessness, and delirium. Tongue dry and brown, with sordes; moderate cardiac hypertrophy; faint systolic murmur in mitral area and at base, not transmitted; some tympany without abdominal tenderness. Knee-joints much swollen, tender, and painful, without redness. The other affected joints somewhat better than at first. Urine acid, 1018; contained pus and large numbers of red blood-corpuscles; albumin, probably due to the blood.

The treatment consisted at first of salophen, 10 grains, q. q. h. together with sodium bromide 20 grains, the local application of soap liniment and oil of gaultheria to the joints. A few days later this was exchanged for an alkaline treatment, without advantage. On the 2d of October he was given salophen again in larger doses, and later potassium iodide. His condition up to this had remained about the same. On the 4th of October it was noted that his mental condition had improved, but on the 6th his condition was again worse, with delirium and much complaint of pain in the knees and through the head and neck. The former treatment was stopped and patient was given syrup of the iodide of iron m. xxx, q. die, to be increased m. i. each day. The dosage was progressively increased until the 5th of November, when the patient took somewhat more than a dram of the syrup of the iodide of iron four times daily without repugnance or the slight-

est derangement of the digestion. Meanwhile his condition has steadily improved. By the end of October the temperature had fallen to normal and the patient was about the ward on crutches. He was discharged entirely recovered on the 17th of November.

Case III.—David D., twenty-one years old, a clerk, was admitted to my service in the Pennsylvania Hospital October 19, 1899. Had gonorrhea three years ago, during the course of which there was pain in the left shoulder and in both feet. These pains continued eight months and have occasionally recurred. Two weeks ago a second attack of gonorrhea occurred, which continues. Was admitted to the hospital on account of severe pain in both feet, with great tenderness and swelling and inability to walk. A purulent urethral discharge with blood. Was treated with strontium salicylate, 10 grains, sext die, and salol. In the course of a few days a slight improvement resulted. On October 26th it was noted that the pain in the feet was very severe and that the urethral discharge had ceased. He was given syrup of the iodide of iron in doses m. x, t. d. Two days later no improvement. The syrup of the iodide of iron was increased to m. xx, t. d. At this time there were pain, tenderness, and swelling in the right knee. November 5th, given the syrup of the iodide of iron m. xxx, t. d., the dose to be increased by the addition of m. i daily. On the 8th, condition generally improving. On the 15th, improvement in the general condition and in the joints; able to walk about the ward. On the 28th was discharged cured. In this case the constitutional disturbances were slight and the temperature ranged between 97° and 100° F. during his sojourn in the hospital.

These cases not only illustrate the curative influences of the syrup of the iodide of iron, but they also place the results of treatment by this medicament in striking contrast with the failure of ordinary anti-rheumatic remedies such as the alkalies, the salicylates, salophen, and potassium iodide.

In Cases I. and II. the treatment was conducted in my absence for a considerable period of time by a medical friend temporarily in charge of the wards. It was not until my return to the German Hospital early in November that Case I. was treated with the iodide of iron and the same change was made in Case II. upon my taking the service in the Pennsylvania Hospital about the first of October. In Case III. other measures of treatment were at first designedly employed in order to place the iodide of iron treatment in contrast with them.

Gonococci were not present in the vaginal discharge in Case I., and doubt as to the essential nature of the infection naturally arises. There is no question, however, as to the character of the infection in Cases II. and III.

It would be idle to speculate as to the process by which the therapeutic effect is produced. The subject belongs to the wide realm of empirical therapeutics. Favorable results have frequently

been obtained in the convalescent cases by the substitution of gelatin-coated pills of the iodide of iron for the syrup, but in the acute cases the pills are of inferior value.

MOULDS IN THE STOMACH.

By J. H. KELLOGG, M.D.,
OF BATTLE CREEK, MICHIGAN.

FOR several years the writer has given special attention to the study of the bacteria of the stomach. This study has been carried on extensively and in a practical way. Over 8,000 stomach fluids have been examined, in the laboratory under his direction, with reference to the number of bacterial elements present, including germs and yeast, and the character of these organisms, especially with reference to their ability to produce acids, toxins, etc. The number of cases in which moulds were found is very considerable. They were found 457 times in 7,000 analyses, representing nearly as many different individuals. In many cases only one or two colonies were found, while in others many colonies were present, the number varying from half a dozen to as many as 800.

The sources of moulds in foods are rather numerous. The *Oidium lactis* is nearly always found in milk, especially when it begins to sour, and is almost constantly present in butter. The almost universal use of these articles constitutes an abundant source for this common mould. *Aspergillus fumigatus* thrives at body-heat, and readily finds its way into the stomach through the use of bread, in which it is commonly present. The *Aspergillus flavescens* is likewise capable of developing in the body, flourishing, as does *A. fumigatus*, at the temperature of the body. Moulds, like various bacteria, give rise to fermentations and putrefactions, converting the hydrocarbons into alcohol and acids, and producing toxins, sulphuretted hydrogen, leucin, tyrosins, etc., from proteids.

As regards the effect of these organisms upon health, *Oidium lactis* has been shown to have a decided irritant effect upon the gastric mucous membrane, giving rise to diarrhea, sometimes even producing febrile gastritis, or gastric fever. Koch and Gaffky have shown that some of the moulds are constantly pathogenic. This has been proven to be especially true of *Aspergillus flavescens* and *fumigatus*. Injection of bouillon inoculated with these moulds into the veins of a rabbit produces death within twenty-four hours to three days. A post-mortem examination of a rabbit killed in this manner shows, under proper staining, colonies of moulds growing upon the surface of the internal organs everywhere within the body. The malicious influence of the long exposure of the organisms to the toxins produced by the moulds is well shown in the disease *pellagra*, which so often occurs in Italy as the result of eating mouldy grain. The writer has noticed in many instances the most pernicious ef-

fect from the use of butter which may have been due to the presence of a considerable quantity of *Oidium lactis* in the same. It frequently occurs that patients are entirely unable to eat ordinary fermented bread. This may be due in many cases to the imperfect cooking of the interior of the loaf and to the presence of yeast; but in the bacteriological examinations of various specimens of bread made in the laboratory under the writer's charge, yeast has been found present much less frequently than was expected; the spores of mould, however, being much more tenacious of life than yeast, their presence may, perhaps, be held responsible for the great disturbance not infrequently set up by the ingestion of yeast or fermented bread.

Glenard has pointed out the fact that persons with dilated stomachs are unable to make use of milk in any form. I myself have frequently confirmed this observation, and have become so thoroughly convinced of its utility that I have for a number of years made it a routine practice to forbid the use of milk by patients suffering with marked dilatation of the stomach. A possible cause may be the decomposition of the milk by moulds, and the production of toxins.

The most pronounced and marked case of mould infection of the stomach which came under the writer's notice was one registered as No. 7932, in which 800 colonies were found in one cc. of stained fluid. The case was a pronounced one of hypopepsia. Only eight milligrams of free hydrochloric acid were present. Moulds grow

A SIMPLIFIED APPARATUS WITHOUT VALVES FOR THE ADMINISTRATION OF NITROUS OXIDE ALONE OR IN COMBINATION WITH ETHER.

By S. ORMOND GOLDAN, M.D.,

OF NEW YORK;

INSTRUCTOR IN GYNECOLOGY IN THE NEW YORK POLYCLINIC.

THE inhaler consists of a perforated long central cylinder into the distal end of which telescopes a smaller one (8) containing a revolving obturator (8a); (the obturator is not an essential part of the apparatus, being simply used to avoid the waste of gas); a rubber gas-bag (7) with hard rubber shut-off; a small perforated cylinder with thin rubber-bag (6) for use during ether anesthesia; a metal basket containing gauze (9) upon which ether is poured.

When using the apparatus for gas inhalation alone proceed as follows: Thoroughly collapse the bag, forcing out all atmospheric air; close the obturator by revolving directly opposite to point marked "open;" fill the bag fairly well with gas; have the patient's head turned fully to one side; apply inhaler to face, seeing that the face-piece fits snugly and that there are no crevices through which air may enter; then turn the obturator to "open" and instruct the patient to breathe in deeply for from thirty to sixty seconds. Gas anesthesia will then be complete and is evidenced by cyanosis, stertor, jactitation, insensitive conjunctivæ, and hard, full pulse. If rapid and shallow respiration is present and if gas is to be continued,



Inhaler without Valves.

in acid media, so that they are often present in both hyperpepsia and hypopepsia, but with much greater frequency in hypopepsia. In 475 cases noted, there were found 32 cases of simple dyspepsia, 176 of hyperpepsia, while 249 were cases of marked hypopepsia.

The full significance of moulds in the stomach fluid is perhaps not yet fully understood. The subject is one deserving further investigation.

a breath or two of air should be admitted until the stertor and cyanosis cease; then the gas may be readmitted. When gas is used alone the patient should not be permitted to fully regain consciousness before the gas is readmitted. It will be noticed that with this apparatus the patient breathes the gas over and over again, for this reason the bag should occasionally be collapsed and refilled with fresh gas. This should be per-

mitted to enter the bag from time to time to keep it fairly well filled.

If the administration of ether is to follow that of the gas, one should proceed as before until the patient is anesthetized. Then the inhaler should be very quickly removed and the basket with gauze, upon which from half an ounce to an ounce of ether has been previously poured, quickly inserted and pushed well forward to obturator when the inhaler is again applied. The patient thus breathes ether and gas; occasionally coughing occurs or the patient will hold his breath when a breath or two of fresh air may be permitted by tilting the inhaler, after which ether narcosis very quickly replaces that of gas. Anesthesia is complete within two to four minutes in most cases depending upon the type of the patient. After ether anesthesia is complete the cylinder with the gas-bag may be removed and the smaller cylinder with the thin rubber-bag may be applied making the inhaler much lighter in weight. This is an advantage during long narcoses. Air may be admitted in various ways: (1) By removing the inhaler entirely from the face; (2) by withdrawing the small cylinder with rubber-bag attached, thus making a perfectly open inhaler; (3) by revolving the inner cylinder until the openings meet where from one to five may be had; by withdrawing the smaller cylinder until the inner series of perforations appear, ten in all.

The apparatus is extremely light, durable, portable and inexpensive, and its simplicity commends itself alike to the occasional administrator and the hospital interne.

225 West 45th Street.

THE CONTINUED USE OF THE ANTISEPTIC AND ELIMINATIVE TREATMENT OF TYPHOID FEVER WITHOUT ANY DEATHS.¹

BY T. VIRGIL HUBBARD, M.D.,
OF ATLANTA, GA.

CONTINUED and uninterrupted success with the antiseptic and eliminative treatment, with convincing clinical illustrations of its inevitable correctness, forces me to disregard the sage advice of Shakespeare and repeat some remarks I made before this Association one year ago. Assuming the risk of being ridiculed for repeating the truth and, perhaps, denounced for making it so emphatic, I acknowledge my cheerfulness to submit to either affliction, if by so doing I may induce some of my professional friends to cast aside their theoretical objections, which are too often but the delusions of a dream capable of being swiftly dispelled by the awakening light of clinical experience with the treatment.

With profound respect for these gentlemen (for some of them I love) who differ with me from a theoretical standpoint, I must confess a failure to see the logic in attempting to combat clinical results with theoretical argument, espe-

cially when that argument is based on an acknowledged inexperience with this treatment and is influenced and sustained by the passion and prejudice naturally engendered by following for years a contrary course of treatment. If medicine were an exact science, if we could demonstrate the correctness or incorrectness of its theories as we can a mathematical problem, there would then be some logic in resorting to mere argument to meet the mortality statistics, but at the present time the court that renders the final decision, and from which there can be no appeal, is the number of deaths which follow from this or that line of treatment.

That we are all creatures of habit and routine is, unfortunately, too true, and medical men are no exception to the general rule. A study of the history of medicine reveals the fact that all new theories or advances in treatment undergo a struggle for existence in their infancy, and the friends of this treatment are not in the least discouraged because it is undergoing the fire of denunciation and criticism which characterizes the radical change of any established treatment. It would be nothing short of a miracle if the medical profession should spontaneously adopt the eliminative treatment, a treatment almost the opposite of that which has been taught and practised for the past twenty-five years, regardless of its correctness or incorrectness. A child reared in a Protestant family, and taught the edicts of that religion, is not likely to embrace Roman Catholicism, nor *vice versa*. In the same manner the young man who is taught in his college course that cold water is the proper treatment for typhoid fever, and has practised it for years after leaving his alma mater, is not likely to adopt the eliminative treatment without indubitable evidence of its correctness.

I will briefly repeat the treatment which I recommended in a paper read before this Association one year ago, and I have very few additions to make to the same. When called to a case of typhoid fever, I usually commence by giving the patient a capsule containing calomel, $\frac{1}{2}$ gr.; guaiacol carbonate, 2 grs., podophyllin, $\frac{1}{20}$ to $\frac{1}{40}$ gr., every two hours for twenty-four to forty-eight hours, depending on the condition of the bowels. I continue this until I have secured four or five intestinal evacuations for two successive days, and then I stop administering the calomel and add $\frac{1}{2}$ gr. of menthol to the guaiacol and podophyllin. If, after discontinuing the calomel, there is any tendency for the bowels to become inactive, as there frequently is, I administer a small dose of salts or Hunyadi water in the morning. I always endeavor to secure at least two or more evacuations daily, depending on the temperature and the condition of the bowels. If, after four or five days of treatment, the temperature remains high, or rises after having remained stationary, I again resort to the calomel as before for twenty-four hours, or less, as necessary; and it invariably reduces the temperature and results in a general improvement in

¹ Read before the Medical Association of Georgia, April 5, 1900.

the patient's condition. I continue the administration of guaiacol and menthol throughout the course of the disease.

In addition to this I frequently resort to the administration of normal salt solution per rectum, and have been very much gratified with its results, especially in those cases where the skin and kidneys failed to act well. It seems to me that in any toxemia normal saline solution would do good by diluting the poison in the blood and favoring its elimination by the skin and kidneys, and, in cases of very high fever or severe toxemia and an exhausted condition of the patient, I would promptly resort to its subcutaneous administration.

I will consider first the least important, the antiseptic part of the treatment. It has been said by the opponents of this treatment that it was impossible to render the alimentary canal aseptic by the administration of drugs, an opinion in which I have always heartily concurred; but I was surprised a year ago to find opposition to this treatment from some of our surgeons who practise aseptic technic in their operations. If they will but reflect for a moment, it is this same broad principle which, applied to surgery, has rescued it from a chaotic state of empiricism and elevated it to a scientific basis. Would any modern surgeon fail to wash out and drain an abscess cavity because he could not render it aseptic at the first operation? Should he fail to irrigate an infected wound because he could not cleanse it of every drop of pus and every micro-organism at the first irrigation? If a patient is bleeding from three ruptured arteries, and from an anatomical situation one of them can not be reached, does it lessen the obligation of the surgeon to place a ligature around the other two? So in typhoid fever, if we cannot thoroughly disinfect the bowels and thus reach ideal results, must we peacefully fold our hands and acknowledge with mortification and chagrin that we can do nothing but amuse the patient by pouring cold water on the skin? Is this the course the surgeon pursues in a case of infection? Is it not our plain and unequivocal duty, with our present knowledge of the causation and pathology of typhoid fever, to resort to the following measures? First, such as will remove as far as possible the offending agent from the bowels, and, secondly, such as will render the intestine as far as possible an unfit culture-tube for multiplication and development of the various micro-organisms which are to be found there, as well as prevent fermentation and putrefaction of food products. Is not the efficacy which has for a long time been attributed to that good old remedy, turpentine, been due almost exclusively to its antiseptic properties? But, whatever may be said in favor of the administration of intestinal antiseptics in typhoid fever, they play an insignificant part as compared with those remedies which have for their function the promotion of elimination from the system of the toxins by stimulation of the emunctory organs. It is to the accomplish-

ment of this result that the successful clinician will chiefly address his efforts.

I would most respectfully invite the attention of those who have attempted to refute something I have never claimed in reference to intestinal antiseptics to the eliminative part of this treatment. I presume that no one is so obsolete in his views as to maintain for a moment that the intestinal ulceration *per se* in the bowel-wall is the cause of the constitutional symptoms of typhoid fever. If so, how does he account for those fatal cases of typhoid in which no intestinal lesion is found post-mortem? The most convincing fact gleaned from my experience with the eliminative treatment is that entirely too much importance has heretofore been attached to the intestinal ulceration and too little importance to the constitutional condition of the patient. The sins of omission are too numerous to mention which may be justly charged upon that timid physician who sits by a case of typhoid waiting and expecting perforation of the bowel or fatal hemorrhage while assuming an attitude of passive indifference, fearing something which in the large majority of cases will never happen, and on this account withholding food and drugs while the life of his patient is surely but slowly ebbing away from starvation and toxemia. That a healthful reaction has set in against a too-restricted diet in typhoid fever no one who is familiar with recent articles in the leading medical journals can deny.

I am convinced that a large number of typhoid patients have died from want of food, and it is equally true that a great many have passed to the "beyond" because they were unable to digest and assimilate what was given them, owing to the torpid condition of the liver and diminished secretion of gastric and intestinal juices, a condition which could be largely overcome by the administration of proper drugs. The ulceration of the bowel has been the great bugbear of the physician; the objective point on which he has centered his therapeutic vision, and yet if it does not produce perforation or a fatal hemorrhage it is of no more prognostic significance than if it were on the leg of the patient, barring the exception that it may act as an absorbing surface for other germs than the bacillus of Eberth.

While the attention of the physician has thus been directed to the condition of the bowel and temporarily distracted by the fear of perforation or a fatal hemorrhage, which only occurs in about two or three per cent. of the cases, he has wilfully and persistently neglected those measures at his command which would prevent the death of his patient from exhaustion and toxemia. Some old writer has said that the physician should always obviate the tendency to death and we can sometimes learn more from one case that dies than from ten cases that recover by studying the cause of the death. I think we shall gain some practical information by closely observing the cause of the tendency to death and become more active in the use of those remedies which com-

bat that tendency. The sooner we look upon typhoid fever as a constitutional poisoning of the system very similar to an average case of septicemia and treat it accordingly by assisting nature to eliminate the poison or destroy it in the system, the sooner we shall diminish the mortality of this disease.

There are certain established facts about this disease that I think all will agree to and accept. *First, that the cause of typhoid fever does not originate de novo in the human organism, consequently it must be introduced from without. Second, that this causative agent introduced from without and the poisonous products it generates within come under the head of a constitutional poison and may be found in almost every tissue of the body. Third, that at the present time we do not possess a direct chemical antidote whereby this poison may be changed into a harmless compound.*

With these propositions admitted, a poison introduced into the system, circulating in the blood, found in the different tissues of the body and for which we have no chemical antidote, our duty becomes very plain and the therapeutics of this disease very much simplified. What would we do in other cases of poisoning with something for which we had no direct antidote? Would we not attempt to eliminate it from the system? The rational procedure, then, is the elimination of this poison from the system, and its egress can only be accomplished by stimulating to the fullest functional capacity the liver, bowels, kidneys, and skin—the natural eliminants. That Nature when left alone attempts to throw off the poison by these organs is clearly shown by the fact that their secretions contain the lethal products and will convey the disease. Fütterer found that bacteria injected into the portal vein appeared in the general circulation in one minute, and he also demonstrated that elimination of the germ from the system by the liver and kidneys was very promptly inaugurated. He suggests that this eliminative function of the liver explains why the typhoid germ is so often found in the gall-bladder and bile-ducts, where it frequently sets up an inflammatory process. Adami has also demonstrated that the liver-cells normally possess a bactericidal function aside from that of elimination.

With these facts before us, I think we should apply those remedies which from a knowledge of their physiological effect we believe will most actively and harmlessly assist nature in this eliminative process. Although opinions may differ as to the efficacy of this or that drug, there can be no question as to the object to be accomplished. Those who practise and teach nihilism in reference to the treatment of typhoid fever should recognize the fact that there are sins of omission sometimes greater than those of commission, and that there are other pit-falls in the pathway of the physician than that of mischievous activity in the administration of drugs. The "innocuous desuetude" into which some teachers and practitioners of medicine have lapsed in reference

to the drug treatment of infectious diseases, and especially typhoid fever, together with the common acceptance of the purely imaginary theory that because a disease is produced by a germ it must necessarily run a definite and specific course, uninfluenced by any remedial measures, is to my mind the most rational explanation of the fact that so many laymen are to-day seeking relief at the hands of water-cure men, Christian Scientists and osteopaths—a fact of which we have glaring illustrations in our own city. The advice given by a prominent text-writer in this country that the physician in managing a case of typhoid fever should assume an attitude of "armed expectancy," would, it seems to me, if strictly adhered to, be the indirect cause of more deaths from this disease than any advice which might be couched in any other two words in the English language. Analyze those words, what do they imply? They mean that the physician should nurse the patient and wait for complications, thus shattering to smithereens the good old doctrine that "an ounce of prevention is better than a pound of cure." Of what practical value is the most up-to-date and thoroughly-equipped therapeutic armamentarium in the presence of perforation of the bowel or a severe hemorrhage in typhoid fever? Even although the physician expected it to occur, even although he be prepared with all known measures to meet the condition, of what practical value is it to the patient when he almost invariably passes to "that land from whose bourne no traveler returns," and leaves the physician in a state of melancholic reflection on the inadequacy of his "armed expectancy."

I think it wiser to use those measures which in a large number of instances will prevent the complications than to await their development and then attempt to repair their ravages. That complications can be prevented by the administration of the proper remedies, I have conclusively demonstrated by my own clinical results. In selecting those remedies which will most effectively promote elimination, we naturally place mercury at the head of the list as the great glandular stimulant. That it is justly entitled to the first place as a secretory and excretory stimulant, years of experience have conclusively proven. It is immaterial into what remote part of the system or what complex tissue the typhoid germ or its toxin may migrate; that it cannot evade the presence of this protean drug is shown by the fact that the secretion from the testicle of the male and the mammary gland of the female are no exceptions to the ubiquitous presence of this drug. Those who have never used mercury throughout the course of typhoid fever and have objected to it on the grounds that it was exhausting and tending to weaken the patient, entirely overlooked the fact that it is a tonic in small doses in health and disease. Cabot and others demonstrated that it will increase the number of red blood-corpuscles and the hemoglobin, and augment the body-weight in small doses. There is practically

no drug of value which in the hands of the careless or ignorant would not do harm. Quinine is a specific in malarial fever. Mercury is a specific for syphilis. But who will deny that you can kill a malarial patient with quinine and a syphilitic with mercury? Does this fact, however, lessen their value when properly, carefully, and scientifically administered in these diseases?

It is to the proper administration of calomel in typhoid fever that I desire especially to call attention. If those gentlemen who are skeptical regarding the efficacy of this treatment will administer the drug in small and oft repeated doses, carefully watching for its constitutional effect, they will find that it will control the unpleasant symptoms and fatal tendency of this disease. While it has this effect in small doses, yet to give it in five- to seven-grain doses three times a day would be as irrational and as open to criticism as to start a syphilitic on the same large dose. I have conclusively proven that a typhoid patient can take more mercury without purgation or salivation than the same individual can take when not suffering from the disease. I think we may attribute some of the good effect of mercury in typhoid to the stimulation of the production of white blood-cells which are the great protectors of the system in all infectious processes. While I can not state this positively, because I have not counted the cells while a typhoid patient was taking mercury, yet I think we are justified in assuming this on theoretical grounds.

I have up to the present time treated twenty cases of typhoid fever by this method without any deaths. Other men have treated a large number of cases without any deaths, and the collected results give a mortality of less than 2 per cent. The erroneous position of those who oppose this treatment, and at the same time admit that they have never used it, is too conspicuous to require more than passing notice. If our friends will resort to the same unprejudiced investigation and seek that same high class of indubitable evidence, clinical results, which has characterized our investigation of the subject, they will then be competent witnesses, and we will welcome with enthusiasm a report of their results. When an individual or scientific body of investigators desires to determine the efficacy of any new therapeutic measure, do they seek the opinion of physicians who from want of experience with that measure are unfamiliar with its results? Or do they rather inquire of those men who, having had clinical experience with the use of the measures under consideration, are qualified to give testimony? If a physician treats a given number of cases of appendicitis medically and gets a mortality of about 10 per cent., by what rule of logic would he be justly entitled to condemn the measures of a surgeon who operated on an equal number of cases and got a mortality of 2 per cent.?

The physician who has never witnessed the contrast in the clinical picture of a typhoid pa-

tient on the eliminative treatment, as compared with one on the expectant plan, can no more appreciate its efficacy than a person born blind can appreciate the beauties of Nature. If he has never witnessed the prompt disappearance of delirium, the restoration to consciousness of the clouded intellect, prompt return of the appetite and digestive capacity and gradual but sure reduction of temperature, he has in store for himself one of the triumphs of his profession, and a scene which will give him renewed confidence in the healing art. It is the truth we are seeking in this matter regardless of the source whence it sprang, and if our opponents will show by clinical experience with this treatment that the mortality is as great or greater than with any other method now known, we will then, but not till then, cheerfully acknowledge our error.

CLINICAL MEMORANDUM.

BRIEF NOTES ON RHEUMATIC JOINTS TREATED BY HOT AIR.¹

BY HOMER GIBNEY, M.D.,
OF NEW YORK:

ASSISTANT SURGEON IN THE ORTHOPEDIC DEPARTMENT OF THE
VANDERBILT CLINIC; ASSISTANT SURGEON IN THE HOSPITAL
FOR RUPTURED AND CRIPPLED

SINCE the demonstration of the hot-air apparatus, as used by an English company at the Hospital for Ruptured and Crippled, several years ago, I have had occasion to see a great many cases treated both at the hospital and in private practice. I have had under my own care quite a number of cases which have been treated and benefited by this method. We were not favorably impressed with the apparatus, as made and used by the English company, on account of its bulk and cost, so we devised a portable apparatus, which we could easily carry about with us in a small box and promptly put into use in almost any room. The portable box, which we have used in many instances, is fitted with tubing for attachment to the ordinary gas jet, and has an aperture for either the hip, knee or ankle, made large or small, as required, protected by asbestos, with a small aperture for registering the temperature.

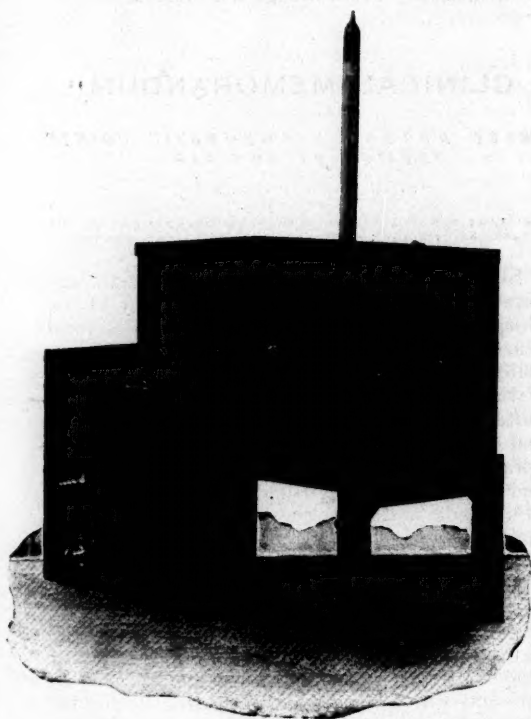
Case I.—A young man with gonorrheal rheumatism, which had not responded to various antirheumatics. Exquisitely sensitive knees and legs held almost at a right angle, knees much swollen. Treatment was begun. The temperature was sent up to 290° F. and kept at this point for fifteen minutes the first day. This temperature was maintained at various sittings during the following week, when gentle massage was employed immediately following the baking process. The temperature then was carried up to 300° F. and the duration of treatment extended to a full half-hour. This method of treatment was continued for perhaps two months,

¹ Read before the Section on General Medicine of the New York Academy of Medicine, March 20, 1900.

meantime he became tolerant to the increased heat, the swelling subsided, and he could get about the room with comparative ease.

Case II.—A girl of twenty-two years with arthritis of the hip. The joint was sensitive, held slightly flexed and presented many of the symptoms of hip-disease. She had been freely cauterized to the point of scarification, six or eight cicatrices presenting over the head and over the gluteal region. She was unable to stand, the pain was so intense, when treatment was begun. She was put on antirheumatics and the hot-air treatment was begun. The first sitting lasted fifteen or twenty minutes, when she could stand 150° F. This was, however, increased in a very short time from one-half to three-quarters of an

Fig. 1.



Portable Hot-Air Box.

hour and the temperature was carried up to 350° F. Rather vigorous massage was immediately employed and she was able to use the limb quite freely. She went out for short walks daily. At the expiration of three months she could go about without assistance. She was free from pain or discomfort, had a very slight limp, and has recently written me that she is at her vocation (that of a school teacher) and has had no return of symptoms, and was much benefited by treatment.

Case III.—A man fifty-six years old with arthritis of the right knee. He had been more or less rheumatic for years and had relied on the

antirheumatics. When seen, his knee presented considerable extra heat, was swollen and sensitive. This was treated in the same way, that is, the temperature at first was low, the sitting lasted for a few minutes and gradually increased. The swelling subsided and he was able to get about without a crutch or stick, and consequently was much improved.

Case IV.—Rheumatoid arthritis of the hands. A woman thirty-four years old. She presented the usual distorted fingers, the swollen and sensitive joints, and also an inflamed wrist. I applied the hot air to these joints daily for five weeks. At the expiration of that time the swelling and sensitiveness had about disappeared; she was able to grasp articles and to flex and extend almost to the normal. This was a case moderate in degree.

Case V.—A man thirty-five years of age, while playing golf injured the left knee. This, he thinks, occurred while he was in the act of driving, his knee giving way. He continued to play, however, and in going down a little ravine, twisted the knee again. He was seen soon after he returned to the club house and his knee was swollen and sensitive. It was immediately basket-strapped and that afternoon was put in the apparatus, which I happened to have, and at the expiration of three or four sittings he was able to use the knee quite as freely as the other, but has worn for a while, following repair, a stockinet bandage about the knee.

Case VI.—A man, fifty-five years of age, sprained his right wrist while playing golf. This was done in England and his effort to play here resulted in lighting up the vulnerable joint. There was very little swelling, but the joint was very sensitive to manipulation. He had worn the leather wristlet usually worn by athletes, but that did not render him quite free from pain. He submitted to the hot-air box and treatment, which lasted from one-half to three-quarters of an hour, for two weeks. I had a letter from him last fall, telling me that he had no return of the symptoms and played golf almost everywhere he had been.

These cases I have presented, as they show the variety of rheumatic or gouty conditions with which we have to deal, and which have responded more or less to hot-air treatment.

Nearly every college trainer is familiar with this treatment of sprains and injuries to foot-ball players. That is, the joints, I believe, are steamed rather than treated with superheated dry air. The superheated air produces profuse sweating, increased cell-activity, and is a tonic to the general system. In several cases of rheumatic flat foot I have been able to break up the adhesions more easily and less painfully by first subjecting the feet to the hot-air box for half an hour. I could then maintain what I had gained by adhesive plaster. I have thus reported a few cases of sprains which do not come under rheumatic joints. I have also seen many old tuberculous joints much benefited by the hot-air box, followed by vigorous massage.

These cases have done well under this method of treatment, but I have seen quite as many with symptoms almost as marked which have not responded so promptly, and this forces us to conclude that the superheated air does not always give the desired result in the treatment of rheumatic joints, but is sometimes indicated as an adjuvant.

MEDICAL PROGRESS.

Intracranial Pressure.—W. N. Bullard (*Jour. Amer. Med. Assoc.*, June 30, 1900) calls attention to the advisability of trephining in certain cases of increased intracranial pressure of unknown cause, and cites the case of a woman who for years suffered at intervals from "feelings of pressure" inside the head and during these attacks lost self-control. Physical examination gave negative results; there was not any affection of either optic nerve or retina, and the mind was unaffected. The cranium was trephined on the right side, just in front of the coronal suture one inch from the sagittal suture, and the hole enlarged to about three by two inches. The tense dura bulged about one inch and did not pulsate. The protruding portion of brain was excised and the wound closed without suturing the dura. After two years the patient was still free from all trouble and had become the mother of a healthy child. Such cases are not so very rare and are occasionally classed as neurasthenia. From this and a few somewhat similar cases he reaches the following conclusions: There exist certain non-traumatic cases of increased intracranial pressure of unknown or doubtful origin; whenever such pressure causes serious symptoms one must consider operative relief; in certain cases cure may result and in all cases more or less permanent relief will be obtained; in cases of severe acute optic neuritis of unknown origin the question of relieving pressure by trephining should be considered.

Epilepsy.—In a paper on epilepsy, W. P. Spratling (*Buffalo Med. Jour.*, June, 1900) states that the disease is found most frequently (1) during early infancy and dentition, (2) during the period covered by the seventh and eighth years, and (3) during the marked transitional period of puberty. Among the causes are: (1) Direct transmission from parent to child; (2) accidents at birth; (3) intense pathological processes that should be physiological; such as difficult dentition, especially in rachitic or scrofulous children; (4) indigestion and malassimilation; (5) accidents of early life, and (6) the grave physiological disturbances that come at puberty. For prognostic purposes it is essential to divide epilepsy into that form due to some physical defect or deformity and into the true form of epilepsy in which no direct cause is apparent and in which the physician can do far less good. Treatment may be in institutions or at home; in the latter case, too much parental sympathy, the too

liberal use of medicines, especially of the proprietary kind, and improper food often defeat the object in view. It is important that patients should have meat but once a day and that at noon and only in small quantities; they should have nothing fried in grease and no pies or other pastry. They must eat largely of cereals, milk, fruits, eggs and butter. Of drugs, the fluid-extract of horse-nettle berries has given satisfaction since it does not impair the functions of the digestive tract. Simulo, also, has given excellent results. A combination of bromide, chloral and morphine is often of service in aborting an expected seizure preceded by a long aura. Great stress is to be laid upon the systematic exercise of all the muscles of the patient's body, such work as can best be done being prescribed after a thorough physical examination.

Choice of Operations in Uterine Cancer.—J. B. Deaver (*Jour. Amer. Med. Assoc.*, June 30, 1900) does not believe that vaginal hysterectomy must necessarily be done by a gynecological specialist as distinguished from the general surgeon. He favors the abdominal route in the great majority of cases for the following reasons: The lymphatics of the uterus and its adnexa run to the lumbar, internal iliac and superficial inguinal glands, and it is not unusual to have them involved on both sides; they can be reached only by the abdominal route and must be extirpated if there is to be any hope of recovery; there is far less danger of injuring the ureters, and when they are injured in vaginal operation the abdomen must be opened secondarily; catheterization of the ureters, with its difficulties and dangers, is unnecessary; danger of hemorrhage is lessened since the field of operation is clearly visible, and for the same reason secondary hemorrhage is much less likely to follow; peritoneal infection is far less apt to occur, since the intestines can be carefully guarded; visceral protrusion into the vagina is more apt to occur in the vaginal hysterectomy. The vaginal operation is applicable only to those cases in which only the vaginal cervix or the cervical or uterine canal are involved and the uterus freely movable.

Acute Sternal Osteomyelitis.—E. Koch (*Münchener med. Wochens.*, June 19, 1900) states that modern surgical methods of diagnosis and treatment have during the last decade done very much to clear up obscure cases of bone-disease. The special feature is that the question of osteomyelitis should always be raised when the trouble is in a long bone and near the medulla. Many obscure or indefinite joint-lesions belong to the category of foci in the epiphyseal cartilage. Small pus-deposits in the ribs may suddenly provoke virulent empyema and at times acute intracranial abscess has its origin in the otitis of the cranial vault. Ten years ago acute osteomyelitis of the vertebral column was hardly a known disease, yet to-day many cases of acute spinal disease may be ascribed to single or multiple infection of the bones, often ending fatally and demonstrated by autopsy. Analogous to this is acute

disease of the sternum. Only seven cases appear in literature. Sick who has written a careful detail of four cases adds one each by Tuengel and Salomon and Schede. The eighth case is that of the author. This disease is fatal, as five of these eight patients died. The writer's case was mistaken for pneumonia until an abscess appeared low down near the ensiform cartilage and later on a second sinus opened near the right nipple. The early course was very like a pneumonia, so that diagnosis was tentatively rational. Unlike tuberculosis, acute osteitis of the sternum appears to affect the body rather than the manubrium. The necrosis may affect the posterior aspect, set up mediastinitis, or the anterior lamella and not the deep thoracic structures at all. The seriousness of the trouble rests entirely with the escape or the involvement of the pleura, lungs or mediastinum structures. In three of five autopsies the pleura was attacked. The rescue of the author's case was due to the early free drainage outward of the foci, which fortunately had not worked in deeply. But the premise remains that five deaths in eight means a poor prognosis. In the author's case the osteomyelitis was solely of the sternum; in several others different bones were also affected. The conclusion is that whenever a bone-lesion, even in the sternum, is suspected early and free exploration be resorted to in order to avoid spread and complications and perhaps death.

Use of Brain Substance in Nervous Diseases.—

Not only has the attenuated virus of Pasteur proven most efficacious in the treatment of hydrophobia, but similar results have followed the injection of brain-emulsions obtained from normal animals; further than this, functional nervous diseases, such as neurasthenia and epilepsy, have been favorably influenced, which all tends to show, according to V. Babes (*Klin. therap. Woch.*, June 17 and 24, 1900), that the various toxins to which the nervous system is especially susceptible and to which the symptoms of epilepsy, etc., are in main due, in the presence of foreign brain-matter in the blood will combine more readily with this than with the nerve-cells of the animal affected and thus will forestall such chemical changes as probably lie at the bottom of most functional neuroses. The author is positive that suggestion may be ruled out as an active factor in his cures, since he has been equally successful with children and adults and since mental diseases, where the subconscious self is clouded, have yielded not less remarkably.

Brain Injury.—E. E. Dyer (*Lancet*, June 16, 1900) reports three cases of brain injuries with two post-mortems. Case I.: Laborer, aged twenty years, struck by revolving steam winch handle, compound depressed comminuted fracture of vault, with large scalp wound over left ear; unconscious, insensible except to strong stimuli, labored stertor, free local hemorrhage, twitchings and convulsions. Trephined and one large and several small pieces removed, dura sound to naked eye. Depression still present in vault, re-

lieved by elevation with fingers. Breathing at once better. Gradual recovery of consciousness; asking for things wanted; drain out on third day; no suppuration. On the ninth day reddish erysipelatous swelling appeared over nose, high temperature, soon disappeared. On the seventeenth day sat up in bed and ate solids. On the twenty-first day a similar red mass appeared on the parieto-occiput. Photophobia now set in and death occurred on the twenty-sixth day. The post-mortem showed a healed wound, a fracture extending to the left ear, thence along the base through the left orbital plate and across the vault to the right ear; dural thickening and adhesions to the site of injury; pus over the meninges at vertex, base and spinal cord; abscess of each frontal lobe. The clinical features were edema due to abscess which in left side broke into the ventricle and relieved tension and temperature; large destruction of brain substance; extreme photophobia; length of time patient survived, and absence of paralysis. Case II.: Soldier, aged fifty-six years; no definite history; ill several days before admission; right hemiplegia; slow speech and cerebation; old left keratitis; eighth day violent convulsion, controlled by morphine and chloral; no more convulsions, but frequent twitching; death twenty-four days after admission, thirty days after first seizure; nourishment taken up to day of death; highest temperature 99.8° F.; no affection of breathing. Post-mortem lesions were as follows: Dura frequently and firmly attached to the calvarium; its veins enormously dilated; brain substance very soft; on section left hemisphere showed three clots, the first, 1 3/4 inches in diameter, near surface just below the fissure of Rolando; the second lower down, inside the middle frontal convolution; the third in the occipital region; on the right side three other clots in about the same sites and sizes were found; of all the oldest was in the right frontal and the newest in the right occipital lobe; a seventh clot was in the left cerebellar hemisphere. Apparently the cerebellar clot alone caused the convulsions, because there was only one attack of them. The difference in the ages of the frontal clots ought to have caused two sets of convulsions which was not the history. Case III.: Brain injury without death. The patient, a lad, was caught between a fixed upright beam and a horizontally moving machine arm 3/4 of an inch square; small temporofrontal scalp wound; probe disclosed fracture and tract into brain, 2 1/2 inches deep, by its own weight; no operation; sterile dressings; recovery; at time of injury he walked 200 yards for medical help. These cases seem to show great effort by the brain to repair damage and ability to sustain enormous injury.

Kraurosis Vulvæ.—This rare but troublesome affection of the external genitals of the female, writes G. I. Himmelfarb (*Annales de Gynécologie et d'Obstétrique*, June, 1900) occurs in adults from twenty years to old age, and in the virgin as well as the parous woman. Its etiology is not well

known, though some observers give gonorrhea, syphilis, or continued irritation as the probable cause. It predisposes to cancer. The affection begins in the superficial layers of the skin producing at first an inflammatory hypertrophy and hyperplasia of the connective tissue, edema of the dermis and epidermis, and degeneration of the elastic tissue. Later, this passes into the atrophic stage with marked retraction, blanched dry skin, and a thickened epidermis between the labia majora. The latter are shrunk, and the nymphæ appear as slight projections. The neighboring parts of the skin are shiny, dry, of a rosy gray color, and dotted here and there with white spots penetrated by bunches of vessels. The sebaceous and sweat glands and the hair-follicles have almost disappeared. The parts are much retracted, and tear very easily; the walls of the vagina are smooth. The course of the affection is slow, lasting some years, and the symptoms are: burning sensations, marked pruritus, painful micturition, feelings of tension, and sharp pains. Owing to the retraction and narrowing of the vaginal orifice, coitus is difficult, painful, and may result in laceration, and severe tears accompany childbirth. The only treatment that so far has been effective is the extensive excision of all the parts involved.

Mitral Stenosis.—The presystolic murmur characteristic of mitral stenosis is composed of three parts, writes C. C. Gibbes (*Medicine*, July, 1900). First, audible right ventricle muscle vibrations, which on account of the two ventricles not acting synchronously are heard while the left ventricle is in diastole. Second, a murmur caused by the flow of blood from the left auricle into the left ventricle. And third, the slapping first sound, which is truly a part of the murmur. The apex of the heart in pure mitral stenosis is formed by the right ventricle, and the left ventricle is not in contact with the chest-wall. The left ventricle has a short systole and a long diastole; and in order to compensate for the mitral obstruction, the right ventricle has a prolonged systole and a short diastole, the early part of its systole being auricular in rhythm, and occurring while the left ventricle is in diastole. This is borne out by the almost constant reduplication of the second sound when the heart is properly compensated, by the frequent reduplication of the first sound, and by absolute necessity owing to the high tension in the right ventricle and the low tension in the left. When there is some failure of compensation the presystolic murmur may be lost, though audible muscle vibrations can still be heard, the lost portion of the sound being that contributed by the auriculo-ventricular blood-current. The reduplicated first sound may also be heard in other conditions, for example, in sick children, especially if the pericardium is adherent, and in mitral regurgitation. In the latter, as the heart gains in strength this pseudopresystolic murmur without the crescendo character and the slapping first sound, passes off, and a

pure mitral systolic is heard. Even in anemia there may be lack of synchronism, with a deceptive pseudopresystolic murmur.

Three Symptoms of Rickets.—Referring to the three most characteristic symptoms of rickets, W. N. Berkeley in *Pediatrics* (June 15, 1900) points out that (1) the rosary is sometimes missed because the examiner forgets that the osseo-cartilaginous junctions in the child are relatively farther by an inch from the median line than in the adult. Instead of a genuine node only an angle may be found and again the tumefaction may be considerable on the inner side and absent on the exterior of the rib. (2) The characteristic head in rickets is the familiar prominence of the parietal bones, giving to the head its box-like shape. The anterior fontanelle instead of closing as it should between the sixteenth and nineteenth months remains open. The bony plates may be thinned, or completely softened, the latter symptom (craniotabes) sometimes occurring in otherwise perfectly shaped heads. (3) The liver and spleen should always be examined. The chronic intestinal indigestion furnishes toxic matter enough to cause a simple tumefaction of these organs, and to this is added the secondary anemia of rickets. The specific cause of the disease may also assist in producing an enormous liver and spleen. Compared with the liver the spleen is more apt to reach remarkable dimensions. Syphilis, leukemia and malaria should always be excluded in cases presenting large spleens.

"Floaters" in the Urine.—In a series of experiments W. F. Bernart (*N. Y. Med. Journ.*, July 14, 1900) has attempted to find out whether shreds found in the urine of a case of chronic urethritis of gonorrheal origin depend for the depth of their suspension upon the composition of the masses or the specific gravity of the urine alone. Specimens were voided directly into clean high beakers and at the end of one and a half hours samples were taken from the upper half, the lower half and the bottom. The floaters were examined, the urine filtered and the samples again returned. In every case it was found that the particles which floated in the unfiltered urine fell to the bottom in the filtered urine with the exception of an occasional mucous shred. The examination of the floaters followed the classification of Guyon, in which those which lie in the upper section of the urine are composed mainly of mucus and epithelium, those of the lower portion have an addition of pus, and those containing much pus sink to the bottom. The author concludes that, although the specific gravity of the urine and composition of the floaters are prominent factors in determining the position of the particles, yet their suspension at different depths is largely due to mechanical interference and there must be some substance in the urine which can be removed by filtration and which influences the action of the floaters materially.

Diabetes Mellitus.—The pathogenesis of diabetes mellitus is still unknown and the clinical picture must be relied upon to make a diagnosis of the condition. In the *Practitioner* (July, 1900), R. Saundby has reviewed the many theories in regard to the formation and excretion of glycogen and the several influences which control them. He believes that the causes of the disease may be divided into the conditions in which the liver is no longer able to reserve and store up glycogen, and secondly into the conditions in which the sugar consuming powers of the tissues is reduced. These result from (1) various functional and organic diseases of the nervous system of which neurasthenia must be placed in the front rank. The organic diseases consist chiefly of tumors of the medulla. (2) Pancreatic diseases including fibroid, fatty or calcareous degeneration. (3) Injuries or diseases of the liver itself. (4) Poisons, of which alcohol is the chief one. Simple glycosuria does not mean diabetes, but when it does not disappear readily under treatment and there is added polyuria, thirst and failure of nutrition the diagnosis is clear. The author believes that the best results are obtained from a restricted diet rather than from drugs, and he advises the use of such a dietary as would allow the patient about 500 grains of sugar-forming carbohydrates in 24 hours. It is desirable to continue the strict diet for some days or weeks in order that the tissues may regain part of their lost sugar-consuming power, and the duration of the regimen must depend upon the result upon the patient. Presence of acetone or diacetic acid in the urine demands an increase in carbohydrates. Milk is believed to be a very good food for such subjects, and can be given to diabetics without a corresponding increase in the sugar excreted. So far as drugs are concerned a grain of the extract of opium at bedtime is often beneficial in giving sleep and preventing the frequent necessity of voiding the urine. Bromide of potassium stands next in efficacy. Alkaline mineral waters, soda salicylate and citrate of potash are valuable in increasing the alkalinity of the blood, and when coma is feared strychnine must be given hypodermically and an ounce of sodium bicarbonate administered by enema in hot water and repeated every hour.

Atrophy of the Ciliary Muscle.—In the *New York Med. Journ.* (July 14, 1900) N. B. Jenkins reports the case of a young woman whom he fitted with very low convex glasses followed by the disappearance of all eye strain symptoms. Her glasses were lost and another person gave her concave lenses, and for the pain and dizziness she was given one-fourth-grain belladonna pills which she took once or twice a day for two months. At the end of this time the original glasses could not be used, but + 1.50 S glasses made reading very easy, the patient being blinded for distance. The trouble was probably atrophy of the ciliary muscle and may have been due to a central disturbance arising from the cumulative

effects of belladonna, or to cerebral irritation from improper glasses, or paralysis of the ciliary muscle. The author believes that atrophy of the ciliary muscle is frequent and may be caused by disuse of the muscle, by the long continued use of mydriatics, or by glasses which give the muscle too little or too much work.

Causes of Diabetes Mellitus.—After reviewing the ordinary theories which have been advanced in regard to the causation of diabetes and showing that none of them have any constant relation to the disease, R. F. Williamson, in the *Practitioner* (July, 1900) lays considerable stress upon the so-called idiopathic cases or what Naunyn calls the "pure diabetes." A number of writers suggest that these cases without pathological lesions are due to hereditary and congenital defects of sugar metabolism or are of endogenous origin. No hereditary tendency can be traced, however, in a large number of cases and it further seems that it would more frequently arise in younger persons if due to hereditary tendency. The author is inclined to believe that the condition is due to some toxic substance introduced into the system, usually through the alimentary tract. In some severe cases the sugar secretion may gradually diminish as the fatal termination approaches; and here the pressure of some other poison appears very probable. In mild forms, intermissions frequently occur under treatment suggesting that the toxic material is not being absorbed. Experiments on animals have shown that diabetic urine when given in large quantities to a dog will produce glycosuria and this result is obtained when the sugar has been removed. Leo believes this toxic product to be the result of the action of micro-organisms. The contents of the intestine of a diabetic when injected into a dog will produce glycosuria which does not happen when the intestinal contents of a healthy person are employed. Recent experiments, therefore, seem to promise some light on the cause of the disease and especially on the possible origin of many cases in an intestinal toxine.

Organic Murmurs Localized in Pulmonary Area of Heart.—Organic changes occurring in the right side of the heart are considered very rare except those which manifest themselves in the fetus or in early infancy. J. W. Bearman in the *Med. Rec.* (July 14, 1900) reports two adult cases in which were developed loud harsh systolic murmurs with greatest intensity over the pulmonary area, doubtless secondary to attacks of acute articular rheumatism. He believes that such a murmur may originate in the pulmonary artery itself as a result of structural change in the vessel or its valves, or as a result of pressure from without; or it is generated at the aortic or mitral orifice and conveyed thence in some manner to the pulmonary area. He reviews the literature to show that acquired affections of the pulmonary artery are very rare. Pressure upon the walls produced by an aneurism, mediastinal tumors or bronchial glands may cause a murmur

but their presence is very unlikely in the cases mentioned. The incomplete covering of the left lung may allow the cornus arteriosus to be pressed against the anterior chest wall and a murmur caused but this usually changes with inspiration because the lung is then forced in front of the pulmonary artery. An aortic obstructive murmur is sometimes heard to the left of the sternum with greater distinctness than to the right, but never, the author thinks, is the difference as great as in these cases. It then remains to consider the probability of the mitral valve giving rise to such peculiar murmurs. Naunyn holds that the murmur is conveyed to the second left space through the dilated left appendix. This is usually heard, however, with maximum intensity at about one and a half inches from the sternum. Sansom and Balfour have suggested that such murmurs may be transmitted from the mitral valve which lies directly beneath the second left space near the sternum, and conveyed through the abnormally thickened or hardened tissues of the heart to the overlying chest wall. The author believes the mitral valve to be the cause of the murmur in his cases, the regurgitant sound being conveyed directly to the so-called pulmonary area.

Tumors Complicating Pregnancy.—Ovarian tumors which prevent the descent of the child may be punctured per vaginam and removed later, but if they are small they may, says G. W. Jarman (*Annals of Gynecology and Pediatrics*, July, 1900), be pushed up out of the way by having the patient in the Trendelenburg position. Fibroid tumors at or near the fundus seldom cause trouble at time of delivery, but they prevent the rapid contraction of the uterus, and unusual precautions must be taken against hemorrhage. In the early months of pregnancy, if the location of the fibroid is such as to presuppose difficulty in the birth of the child, abortion should be performed, or, if this is impossible, hysterectomy. Otherwise it means a Cæsarean section, or a hysterectomy at term, with all their attendant dangers. In case of a pus-tube, which fortunately rarely complicates pregnancy, the great danger is sepsis following delivery, and the tube should be removed as soon as discovered regardless of the stage of the pregnancy. Operable malignant tumors should be removed at once; if inoperable, delay may be advisable in the interest of the child. Manipulation of the cervix seems prone to excite uterine contractions, so tumors of this segment are best treated at or near term. Cystic tumors of vagina and abscess of the vulvo-vaginal glands may be operated upon as soon as discovered.

Typhoid Fever in Montreal.—In a report on the ninety-eight cases of typhoid fever admitted to the Royal Victoria Hospital during 1899, B. D. Gillies (*Montreal Medical Journal*, June, 1900) gives the average age as twenty-three years, the youngest $3\frac{1}{2}$ years, the oldest fifty-eight. Most of the cases entered during August,

fewest during December; the duration of the fever was from eight to fifty-eight days, average 24.6 days. In almost all, the onset was gradual, the most frequent symptoms being malaise, frontal and occipital headache, anorexia, pain in back and legs, and chilliness. Twice a severe localized abdominal pain simulated appendicitis. Chills occurred in seventeen per cent., diarrhea at onset in twenty-one, epistaxis in nineteen, vomiting in thirty-four, in one case persisting throughout, and delirium, usually of low, muttering character, in nineteen per cent. The rose-spot eruption was present in seventy-two per cent., appearing from the fourth to the fortieth day, and lasting from three to twenty-seven days; it was petechial in only one case. The spleen was palpable in sixty-seven per cent., remaining so for from three to thirty-two days. Relapse occurred in thirteen per cent. lasting from eight to twenty-nine days. In half the cases the temperature reached 104° F. or over. Meteorism was present in twenty-five per cent., double parotitis in one case, cholecystitis in four cases, one being suppurative with gangrenous ulceration and cholelithiasis. Perforation occurred in two cases, on the tenth and thirteenth days, and intestinal hemorrhage in nine cases. Systolic murmurs appeared in five cases, femoral phlebitis twice, and brachial phlebitis once. Acute bronchitis was present at onset in fifteen cases, bronchopneumonia developed in one case, pulmonary edema in one, pleurisy with effusion in two; one case was complicated with tuberculosis. Periostitis developed twice, abscesses once, myositis of triceps and deltoid once, suppurative otitis media three times, acute nephritis four times. The Widal reaction was negative in only four cases, appearing from the fourth to the eighteenth day. Death was caused by intestinal hemorrhage in three cases, by perforation with hemorrhage once, by perforation once, and by toxemia twice. One case with cholelithiasis and cholecystitis was operated upon and recovered.

Abscess of the Cerebellum.—With almost no exceptions, abscess of the cerebellum follows otitis, says M. Dieulafoy (*Le Progrès Médical*, June 30, 1900). The otitis may be acute or chronic, with or without discharge, but as soon as the infection attacks the middle ear it extends to the antrum and the mastoid cells, and the danger is there. As intracranial lesions secondary to otitis we may have cerebral or cerebro-spinal meningitis, pachymeningitis, phlebitis and thrombosis of the sinus, and cerebral or cerebellar abscess. The general symptoms of the latter, no matter what part is affected, are occipital headache, vertigo, loss of equilibrium, staggering, drunken gait, vomiting, nystagmus, optic neuritis, cervical contractures, muscular asthenia, and a condition of somnolence, or torpor bordering on coma. If there is also paralysis of the external ocular motor nerve the affected lobe may be diagnosed. Cerebellar abscess may be distinguished from labyrinthine disease by its more violent headache, its persistence, and its lo-

cation; and by the somnolence which increases from day to day. In abscess of the temporo-sphenoidal or occipital lobes of the cerebrum there are motor affections, paresis, contractures, spasms, but always on the side opposite to that of the lesion or the otitis; and aphasia and hemianopsia are important signs. In glioma, gliosarcoma, tuberculoma, and parasitic tumors of the cerebellum, there is a tendency to produce other than local symptoms by affecting the surrounding tissues. Syphilis must always be carefully sought for in the history.

Imperforate Hymen.—Mr. H. H. Borland (*Lancet*, June 23, 1900) relates the following case: Age 13 years; Dec. 30, 1899, diarrhea; 31st, abdominal pain; the state continued the same till Jan. 4, 1900, when diarrhea, bearing down pains, dysuria, finally retention of urine supervened; always good health; no menstruation; "large blue vein" noticed by mother at genitals but no operation had been done for it. On examination were noted extreme distress; crying with agony; great restlessness; good condition; womanly configuration; rounded breasts; abdominal enlargement apparently by a tumor rising two inches above the umbilicus; globular, uniform surface, firm and elastic without fluctuation; the vulva and perineum distended and between the labia a bluish vascular membrane bulged downward one inch or more, fluctuating distinctly; no dilation of the anus; rectal examination showed a tense elastic fluctuating mass encroaching on the bowel; further, this mass pushed up and occluded the urethra. The bladder was evacuated of urine, 340, by a catheter and the bowels by castor oil as the first steps in the treatment. The field was prepared for operation the next day, but the membrane parted slightly in the interval and slow evacuation of the retained molasses-like mass had begun. After a second cleansing of the field a full-length linear incision was made and widened by the index-finger to promote free flow of the fluid. A glass drain-tube to act as a bougie was put into the vagina and retained by dressings, and during urination by digital pressure. After micturition the parts were thoroughly cleansed. The mucosa of the vagino-uterine canal was perfectly smooth. Jan. 6th everything had gone well. No os uteri could be found. But the vaginal rugæ were present. Drainage appeared to be perfect. Jan. 12th no more discharge. Jan. 15th the rugæ were almost scirrhus and the uterus normal, its os being palpable and closed. It was directed that the tube be inserted twice a week for some time. Feb. 17th the girl menstruated normally.

Curvature of the Penis.—E. Fuller (*Annals of Surgery*, June, 1900, p. 717) reports a case of this disease which he defines as any resection or bending downward of the penis during erection thereby making coitus impossible. His patient when 12 years old contracted gonorrhea from his nurse. The disease ran an intense protracted course and resulted in a tight large stricture for

which an internal urethrotomy was done. Violent inflammatory reaction followed this treatment and left an indurated area in the penis which during erection made the urethra stand out like the cord of a bow and curved the penis downward so that the sexual act was out of the question. The child was an only son and for legal reasons the parents accepted the poor outlook for any result from a plastic operation and consented not to blame for failure of any effort or for aggravation of an already bad condition by such failure. The plan was about the same as that followed in extensive urethral resections, namely to divide the canal and separate the ends of it very widely to accommodate for the diseased area and then by granulations permit the interval to close. The urethra was not attacked in the penile portion for fear of a persistent fistula, consequently the perineum was laid bare between the scrotum and the anus. After division to secure greater freedom the penile stump of the urethra was dissected from the surrounding tissue for three-quarters of an inch, and, after carrying the penis upward over the pubes and holding it there by traction, the roof of the urethra was carefully stitched *in situ* into its new bed and its floor divided for half an inch to gain space. No such interferences with the proximal stump were needed. The penis was strapped to the abdomen to secure it and urethral and vesical tubes applied for drainage. Recovery was prompt and uneventful. Two years after the young man could have almost normal erections and satisfactory coitus.

Castration or Resection of the Epididymis in Tuberculous Testis?—O. Lauz (*Deut. Zeitschr. f. Chir.*, Bd. 55, Heft 5 and 6, p. 453.) Conservative surgery, perfect antisepsis and improved resection technic have all led to the preservation of all possible parts. But although the French surgeons teach that removal of the tubercular epididymis is safe and sufficient the German opinion is that castration is always necessary because the testis usually is involved although macroscopically it may seem not to be. Again the frequency of tuberculosis in the other genito-urinary organs speaks against the priority of testicular invasion and hence the indication of simple castration. The soil afforded by the testicle for the tubercle bacillus appears to be only the poorest, yet when it does appear the epididymis is usually first involved and that after the disease has already been elsewhere in the genito-urinary tract, prostate, bladder, kidneys, etc. Bilateral consecutive involvement is common, but bilateral contemporaneous invasion is very rare indeed. But since the loss of both testes is so grave a matter in man any procedure conserving them is of importance. Two cases are then narrated, in one the epididymis was removed and cure resulted. In the other castration was done and a testicle macroscopically normal was found microscopically involved. Other cases are also cited and in conclusion the pre-eminent safety of castration is insisted upon.

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SATURDAY, JULY 21, 1900.

SUNSTROKE.

THE hot wave which swept over the country the early part of this week brought infinite discomfort to both man and beast and a full list of fatalities. The denizens of the larger cities of course suffered the most. In New York the list of fatalities was unusually large. On Tuesday, which was the third day in which the thermometer stood at 94° F. at the registration bureau and 98° F. on the street level, cases of aphasia, suicide, and insanity, due to high temperature, were reported, and the bodies of thirty-three children were received at the Morgue ranging in age up to five years. Twenty-two of these came from institutions and eleven from residences. This takes no account of the many deaths that occurred among private families which were not reported at the Morgue.

It is well to remember in case of heat-exhaustion that the success of treatment depends upon the wisdom with which it is advised and the promptness with which it is administered. Roughly speaking, all cases may be divided into two classes, one characterized by intense congestion with high temperature and the other by anemia and collapse with subnormal temperature.

In the former cases depletion is indicated even to the extent of blood-letting in addition to the simpler applications of ice and cold baths; in the latter stimulants are in order, such as ammonia, alcohol and strychnia.

VACATION HYGIENE.

MORE than one-fourth of the population of our American cities, during the heated term, find their way for longer or shorter periods to the country. Some of them, in their search for health, meet with dangers from disease that they would not encounter at their city homes. It is not unusual for the family physician to be called to treat cases of infectious disease occurring after a vacation that would not have developed under ordinary circumstances in town.

When the exodus to the country was shared by only a very small percentage of our city population those who went enjoyed all the benefits of country-life and suffered very few of its disadvantages. Now that the annual outpouring of city-folk is so large dangers from disease that surpass those of the city need to be carefully guarded against. And so it devolves upon the family physician to give such counsel in the matter as will make the status of modern sanitary conditions clear to those among his clients who seek recreation and health away from home.

Probably the most omnipresent danger to health in the country comes from the drainage. Means for the removal of waste material that are ample in winter, and that keep a little community in excellent health, may prove totally inadequate during hot weather, especially with an influx of visitors that perhaps doubles the population. This is a matter that is often not investigated at all when the selection of a country stopping-place for the summer is under consideration. Cesspits that served very well to retain sewage during the winter may with increased use prove ready contaminators of a water-supply even at a considerable distance. This contaminated water, even when no specific disease exists, maintains a constant state of hyperemic irritability of the intestines which predisposes, should the slightest occasion occur, to the successful implantation of typhoid-fever infection. Nearly every autumn city-folk have some family among their friends to condole with because of a death from typhoid contracted in this way.

In addition to the drainage and the water-supply there remains the question of the food. It

is sometimes the custom to assume that because people are residing in the country their food is necessarily always fresh. This was true in the idyllic days before all the city world fell to country-summering. The use of canned goods has, however, so permeated every stratum of modern life, that Corydon and Thyrsis in their Arcadian home would, in our day, surely use somebody's "best" brand of all sorts of preserves. With Arcadian simplicity, they would undoubtedly let them stand open from meal to meal and consider that if they had been preserved for a year, they certainly would not spoil in a few hours. Mistakes like this are the source of many an acute gastritis or more lasting dysentery and only the most careful precautions against involuntary errors on the part of well-meaning hostesses will prevent them.

Milk, because of its significance for the children to whom it is so imported, must receive special attention. In this matter it is a mistake to assume that country-supplies *must* be good. For the preservation of milk ice is absolutely necessary and is also effective. But ice is apt to be sadly deficient in the country. New York's milk-supply is gathered from a distance that necessitates its distribution on the average twelve hours after milking. Berlin derives its milk-supply from sources that require only six hours for its delivery. The average bacterial contents of the New York milk is considerably lower, however, than that of Berlin, because the milk is at once put on ice in this country and kept constantly at a low temperature until its delivery. Low temperatures inhibit the growth of bacteria. It is not so much the original number of bacteria that get into milk that make it dangerous, as the number that result by reduplication in so favorable a culture medium if an inhibitory low temperature is not maintained.

In a word, the sanitary regulations that have during late years so greatly reduced the mortality of large cities have made the general hygienic conditions of city-life better than those in the country. This is especially true for the times when an influx of visitors somewhat converts country conditions into those which obtain in the city. It is important, then, that prospective "summerers" should realize this and know definitely beforehand something of the surroundings to which they are to migrate.

For most of the summer resorts on the Continent European governments provide by law a board of health that assures the maintenance

of proper sanitary conditions. In our country this, apparently, has not as yet been thought of and, owing to the nature of our National and State relations to public health, the establishment of uniform regulations would present serious difficulties. Family physicians must assume for the present, then, the duty of advising and warning in this important matter.

ECHOES AND NEWS.

NEW YORK.

Addition to the German Hospital.—The German Hospital and Dispensary of New York will erect a five-story brick hospital building, 45x81, costing \$120,000, at the southeast corner of Lexington Avenue and Seventy-seventh Street.

New Day Nursery.—According to the plans filed with the Department of Buildings, the Brightside Day Nursery and Kindergarten will erect a five-story brick and limestone building, 15x80, on the west side of Cannon Street, 175 feet north of Rivington Street. The cost is estimated at \$35,000.

School of Clinical Medicine Not Closed.—We are credibly informed that this institution has not been discontinued. Six of the faculty resigned and announced that the school had disbanded but the directors have taken no action in the matter.

State Hospital for Crippled Children.—The following gentlemen, in addition to those already announced, have been appointed upon the Consulting Board of the New York State Hospital for the Care of Crippled and Deformed Children: Dr. Samuel B. Ward and Dr. A. Vander Veer of Albany, Dr. Jarvis S. Wight and Dr. John A. McCorkle of Brooklyn, and Dr. Richard B. Coutant of Tarrytown.

The County Society Medical Directory.—This directory for 1900 is just at hand. It appears in its usual form and dress, is reasonably complete and accurate and a valuable addition to every doctor's table whether he lives in New York, New Jersey or Connecticut.

Unregistered Physicians.—In a decision just filed in the Supreme Court, Justice McAdam holds that the New York County Medical Association is entitled to fines collected from physicians convicted of practising medicine without lawful registration.

Report of Contagious Diseases.—For the week ending July 14, 1900: Measles, 188 cases and 18 deaths; diphtheria, 214 cases and 33 deaths; laryngeal diphtheria (croup), 1 case and 2 deaths; scarlet fever, 74 cases and 9 deaths; chicken-pox, 4 cases; tuberculosis, 214 cases and 137 deaths; typhoid fever, 32 cases and 9 deaths; cerebro-

spinal meningitis, 10 deaths; totals, 727 cases and 218 deaths.

The City House Cleaning.—The Board of Health continues its disinfecting raids in various quarters of the city. Little Italy has been visited and marvelous results have followed. Chinatown has also received its visitation and a generous dose of disinfectants. It is believed now that proper policing of these localities will maintain a reasonable degree of sanitation, although the disinfecting process may be repeated at any time.

Obituary.—Dr. Samuel Russell Welles died at his home in Waterloo, N. Y., July 14th. He was born in Waterloo, February 23, 1825; was graduated from Geneva College (now Hobart) in 1845, and received the degree of M.D. at Buffalo University in 1848. In 1862 he entered the military service as acting assistant surgeon in the 61st Regiment, New York State Volunteers, and received a commission in March of that year. In 1875 he was elected a trustee of Hobart College and was twice sent to the Legislature from Seneca County.

Victims of Tetanus.—Benjamin Conn, fifteen years old, who was accidentally shot in the left hand on July 2d while fixing an old pistol, died in Gouverneur Hospital. The wound resulted in hand on July 2d while fixing an old pistol, died in Brooklyn from tetanus July 13th. The lad on the Fourth of July shot himself in the left forefinger with a toy pistol. The wound was slight, scarcely bigger than a pinhead. A poultice was applied, and nothing was thought of it until Wednesday, when he was taken with a pain in the back. On Thursday his jaws were closed in a deathly grip, and on Friday the boy died.

PHILADELPHIA.

Dr. Stelwagon.—Dr. H. W. Stelwagon, Clinical Professor of Dermatology in Jefferson College, has sailed for Europe to attend the International Congress at Paris. From there he goes to inspect the Finsen Institute, at Copenhagen, for the treatment of grave cutaneous diseases by concentrated light rays.

Baby Farms.—Coroner Dugan is making strenuous efforts to abolish these institutions. The deaths of several infants have lately occurred, either through neglect when diseased or from starvation. The Society to Protect Children from Cruelty is aiding by taking up the cases when the authority of the Coroner cannot be further extended.

A New Healer.—A certain gentleman who affixes the title, "D.S.T." to his name is doing a rushing business with the ever-ready-to-be-humbugged people of the city. It should be stated that D.S.T. stands for "Doctor of Suggestive Therapeutics," and that the degree is supposed to come from a St. Louis school. As no drugs are administered and no surgery at-

tempted, the "Doctor" seems to be free from interference by law.

Water Pollution.—The Supreme Court of the State has handed down an important decision relating to the rights of water companies and the pollution of streams. A water company is an individual and can obtain only a civil remedy against a person polluting its water-supply. The defendant in the case was ordered by the Secretary of the State Board of Health to abate the nuisance, but it was held that the Board must take action before the Secretary could enforce the order.

Health Report.—Deaths in the city for the week ending July 14th were 633, an increase of 89 over those of last week and of 151 over those of the corresponding week of last year. Cholera infantum was given as the cause of 96 deaths, marasmus 38, and sunstroke 33. Contagious diseases: Diphtheria 56 cases, 17 deaths; scarlet fever, 33 cases, 3 deaths; typhoid fever, 27 cases, 11 deaths; cerebrospinal fever, 1 case.

Local Longevity.—An interesting report has been published showing the deaths of aged persons in this city during the first six months of the present year. There were 493 who had lived to or beyond the age of 80 years. Of this number 206 were men and 287 were women. Of those reaching 90 years there were 31; 91 years, 11; 92 years, 6; 93 years, 7; 94 years, 5; 95 years, 6; 96 years, 7; 97 years, 1; 98 years, 2, and 106 years, 1.

CHICAGO.

Blind Children.—According to the school census statistics, there are in Chicago 160 boys and 137 girls who are blind, making a total of 297. The requirements of these children are to be met by a school on each side of the city, to be opened in September.

Impure Ice.—Vigorous action is being taken by the Health Department against those dealers in ice who have as yet failed to procure licenses. It is by means of the licenses that the department is able to keep tab on the dealers, and regulate the manufacture and sale of the frozen product. An investigation of the record of the City Collector's office showed that there were only about two-thirds of the reputed number of ice-dealers in Chicago who have thus far procured licenses. It is the intention of the Health Department to make a thorough canvas of the city, by its inspectors, and all the delinquent icemen will be arrested and taken into court.

Formaldehyde in Milk.—Prosecution of milk dealers who sell impure products was begun by the Health Department on the 16th of July. The charge against them is that they use formaldehyde in the milk, thus imposing on their customers, who believe they are buying pure milk. The dealers say that it is impossible for chemists to discover the formaldehyde in milk by chemical

analysis, and therefore say that the prosecutions of the Health Department will fall flat. However, the officials are confident, and say that they will cause the arrest of some of the offenders.

Home for Epileptics.—The Social Turnverein gave a benefit concert for the Illinois Home for Epileptics, which increased the available funds to \$650. The home is to be built on a site already acquired in Evergreen Park. Dr. William Held will have charge of the institution. The new home will be erected at a cost of \$5000, to be raised by subscription and entertainments.

Disposal of Garbage.—When the City Council made up the appropriation bill last March, it set apart nearly \$1,200,000 to be used for street repairs and sprinkling, and for the removal and disposal of garbage. About half that amount has been expended; nevertheless, regard for public decency and the public health demands that the daily garbage output of a great city like this be not allowed to remain in streets and alleys to breed disease. If the city neglects its duty, not many private citizens will pay for having that work done which the municipal authorities should look after, and the condition of Chicago will be filthy and unwholesome beyond description.

Vital Statistics.—Eight deaths from sunstroke are reported in the bulletin of the Health Department for the week ended July 7, "although doubtless this number will be swelled by the fatal termination of cases still under treatment." The bulletin contrasts this figure with those of previous years during the decade of 1890-99. Two years—1890 and 1896—had sunstroke fatalities largely in excess of the average. In 1890 there were 152 deaths from this cause, 119 of which were in the month of June, with a maximum temperature of 92 degrees and humidity 17 per cent. less than normal. In 1896 there were 183 sunstroke deaths, 172 occurring in the month of August, and 148 of these in a single week, that ending August 15th. The maximum temperature of this period was 98 degrees, and the humidity was 15.3 per cent. in excess of the normal. Mortality from all causes during the week was slightly increased by the heat—36 more than the preceding week, and 4 more than the corresponding week of last year. The aftermath of the hot weather and the Fourth of July is yet to be computed. The total number of contagious diseases reported is 98. Of these 43 were scarlet fever, 49 diphtheria, and 6 measles. There were 52 disinfections performed, and 13 funerals inspected.

GENERAL.

"Divine Healer" Guilty.—Francis Truth, who advertised himself as a divine healer, appeared in the United States Circuit Court at Boston, Mass., July 10th, retracted his previous plea of not guilty, and was fined \$2500, which he paid.

Pure Water for St. Louis.—Chicago promoters have engineered a thirty-million dollar deal that is likely to insure a permanent pure water supply to St. Louis. According to the plans, the Mera-mec Springs, about seventy miles from St. Louis, at the base of the Ozark range of mountains, are to be tapped and their water piped to the Missouri metropolis.

Antitoxin Cures Lockjaw.—Richard Manion, Jr., twelve years old, who lives in Hartford, Conn., has been cured of lockjaw by tetanus antitoxin. While playing in the street early in June he fell, and his hand was cut by a sharp stone. Complications set in, and lockjaw developed. The boy was taken to the Hartford Hospital on June 13th. Little hope of his recovery was entertained. The injured portion of the boy's hand was cut out to remove the breeding-place of the germs. Some opiates were given, but the principal reliance was placed upon the tetanus antitoxin.

Hospital Ships in Chinese Waters.—The "Solace," which since the Spanish War has been used as a transport, has been reconverted by order of Rear Admiral Remey into a hospital ship and detailed to carry sick and wounded American soldiers and sailors from China to the hospitals in Japan. The "Relief" has also been ordered from Manila to China. The "Maine" left Plymouth, England, last week for Chinese waters.

American Nurses in Paris.—There has been established in Paris a Bureau of American Trained Nurses, the list consisting chiefly of graduates from the Presbyterian and St. Luke's Hospital of New York. It is under the direction of Mrs. W. H. Booth, 102 Rue Vaugirard, Paris, France. This will render it possible to secure good nurses for Americans on the "other side."

Death-Rate in London.—The coming of hot weather is not welcomed by Londoners (the thermometer has registered over 90° F. this week), and a general exodus is beginning. It is feared that another spell like that of last year is impending. Until the beginning of this week London's death-rate, thanks to the cool weather, was the lowest in seven years—only 13.5 in 1000.

Medical Requirements in New Jersey.—At a regular meeting of the State Board of Medical Examiners, held at Newark, N. J., July 5th, 1900, resolutions were passed to the effect that the Board will endorse the licenses of any State Board of Medical Examiners in the United States, in lieu of an examination, provided, (1) that the candidate for endorsement shall present satisfactory evidence of having the academic and medical education required by this Board, and (2) that the license presented for endorsement shall have been issued after a State examination of the same grade and kind as that required by this Board. All enquiries should be addressed to E. L. B. Godfrey, M.D., Secretary, Camden, N. J.

Shock Restores Senses.—After being deaf and dumb for almost fifty-nine years, D. W. Tieman of Pittsburg, Pa., fell from a ladder, and the shock restored his senses of speech and hearing. When ten years old smallpox caused his affliction. He learned the deaf and dumb alphabet and afterward conversed in the sign language. He vainly tried many methods of cure, and finally became resigned. While on a ladder recently he lost his balance and fell twenty feet. He was made unconscious. While being carried to a hospital he surprised a member of his family by asking, "Say, where are you taking me?" He now talks incessantly.

Cholera in India.—The Governor of Bombay telegraphs to the Secretary of State for India that there were 9928 cases of cholera in the famine districts during the week ending July 7th, of which 6474 were fatal, and that in the native States there were 9526 cases, of which 5892 were fatal. The total number of deaths on the relief works was 5870, which was 3.9 per 1000. The rains have begun and crops are being planted. Notwithstanding the improved prospects no diminution of relief is possible. The condition of the surviving cattle in Western India is deplorable. The health returns from the Central Provinces are satisfactory. The total number of people on relief was 6,148,000.

The South African Scandal.—The abuses complained of by Burdett-Coutts in the hospital management of the British Army finds American confirmation in the report of Mr. J. J. Van Alen, who, it will be remembered, went out to South Africa with an improved ambulance as a contribution to the British equipment. Mr. Van Alen is reported to have said: "The charges are substantially true. Many men in Roberts' army died from typhoid fever for lack of beds and waterproof sheets. Two marquees and a few bell tents near Bloemfontein contained 496 patients, of whom three hundred were prostrate with typhoid fever. There were only seventeen orderlies to attend to the sick. This inattention was due principally to the sudden and unexpected amount of sickness at the front. The hospital service was thus caught unprepared." Mr. Van Alen left South Africa on June 6th last.

Typhoid at Cape Nome.—Measles and smallpox have been prevalent at Cape Nome for several months, and now advices from official sources represent Cape Nome as threatened with an epidemic of typhoid fever. The disease has already begun to manifest its presence, and local conditions are such that there seems to be no ground for hope of heading it off before it assumes epidemic form. With 30,000 persons grouped upon a narrow strip of land, part of it dug up and the habitable part of the rest covered with tents; with only one highway of any sort, with a background of marsh land; with the supplies for all this multitude scattered here and there, and exposed to

damage or piled up so high that the right foods and medicines are often inaccessible; with no sanitary policing worth speaking of; with no drainage system, and with a water-supply so conditioned as to render it particularly liable to infection, the wonder would be rather if the temporary community escaped a scourge than if it suffered such a one as now menaces it. At last accounts martial law had been declared with the hope of bringing some order out of the existing chaos.

Malaria in West Africa.—The council of the Royal Society has received a report from Dr. Stephens and Dr. Christophers, the medical men of the Malaria Commission now investigating in Sierra Leone. It deals fully with the distribution of the noxious mosquito *Anopheles* in Sierra Leone, and says the principle underlying all attempts at extermination should be, in cities and colonies, essentially that of drainage. Every effort should be directed to the prevention of small collections of "standing water." Special emphasis is laid on the well-ascertained fact that native dwellings are the most fertile sources of infected *Anopheles*. As to surmises how malaria can be contracted in districts rarely visited by man, the report states that such conditions are rarely fulfilled. Observations show that in the vast majority of cases where men are supposed to have contracted malaria in uninhabited swamps, they have in reality become infected in houses, camps, or native villages where fever already existed.—[*New York Evening Post.*]

The Plague.—There is no abatement in the advance of the plague. New cases are being constantly reported from Rio de Janeiro as well as most of the other infected ports. Seven cases have been reported at Smyrna and the diagnosis confirmed bacteriologically. The infection, from the different nationalities of the patients, is evidently pretty widespread. The first two patients are Israelites, the two following Mohammedans, the fifth a Greek, and the two last Armenians. The most recent information from Oporto is that only one case has been discovered there since its reappearance. We are warned that such reports must be received with caution. At San Francisco on July 4th a Chinaman who had been complaining of illness for a week was sent to the County Hospital with symptoms of plague. Cultures made from fluid aspirated from the patient revealed the presence of the plague bacillus. A guinea-pig inoculated with this fluid died sixty hours after the inoculation. The man died July 6th, and autopsy confirmed the diagnosis. This is the first case in San Francisco in which the diagnosis was made before death. It is to be hoped that such positive evidence as this case supplies will arouse the inhabitants and the courts to a proper support of the health authorities in time to prevent any alarming recrudescence of the disease. Such periods of abeyance as has existed since the early cases are characteristic of invasions of the plague.

OBITUARY.

PROFESSOR KÜHNE.

WITH the death of Professor W. Kühne, which occurred in Heidelberg on June 10th, the scientific world lost its greatest physiologist of late years and the University of Heidelberg was deprived of the services of a member of an illustrious group—Bunsen, Victor Meyer, Erb, Czerny, Küno Fischer—that has made this little city a loadstone for scientific investigators of every land. Kühne's contributions to physiology show that he was possessed of a breadth of intellect and degree of originality that was unusual even among the scientists of the Old World. His achievements are all the more noteworthy because they were accomplished—many of them—in his earlier years when methods of investigation were crude as compared with present-day facilities; when an investigator had very little to guide him in the way of precedent; when he had to devise methods as well as conduct research.

Kühne was born in Hamburg November 19, 1837. His scientific education was most complete; he studied at Göttingen, Jena, Berlin, Paris and Vienna and after receiving his degree was assistant to Claude Bernard in Paris for several years. His first academic position in Germany was that of assistant to Virchow at the University of Berlin. The originality of his research work at the latter institution soon attracted attention in scientific circles and he was called to fill the Chair of Physiology and become Director of the Physiologic Institute in Amsterdam. No higher tribute could have been paid Kühne than the offer he received from the University of Heidelberg to fill the position vacated by the distinguished savant Helmholtz, who had been called to Berlin. Kühne came to Heidelberg in 1871 and within three years from that date had organized and equipped one of the finest physiologic laboratories in the world. Kühne's enthusiasm for his work was intense; this in a measure explains the magnificent successes which kept the physiologic department of the University of Heidelberg ever foremost in the attention of scientists everywhere. His work and discoveries covered a wide field. He was probably the first to observe the automatic movements of protoplasm as studied in the ameba and protozoa. This work had the effect of revolutionizing many of the accepted teachings of physiology; it is certainly one of the most important facts ever developed. Kühne was also the first to observe and prove the "self-irritability" of muscle.

His fame was in the ascendancy and reached its acme when he announced his famous discovery of the nerve-endings in muscle, which discovery was the first of a series of researches which he subsequently conducted and which yielded the greater part of our present day knowledge of the relations existing between nerve and muscles. He proved, furthermore, what his illustrious teacher, Claude Bernard, had intimated,

i.e., that curara exerts its specific influence upon the nerve-endings in muscle. Another noteworthy point concerning Kühne's career is that he was the author of the first text-book ever written on the subject of physiologic chemistry, the knowledge of which science up to that time (the early sixties) consisted of isolated facts scattered throughout medical literature. In the field of physiologic chemistry Kühne was an able and original investigator—far in advance of his time. He was the first to accurately work out the chemistry of the albumins and showed their proper diversion into albumoses, peptones, etc. This work was the foundation-stone of a branch of science which has reached enormous proportions and is of great importance in practical medicine. Kühne's inquiry into the functions of the pancreas and the chemistry of its secretion was very productive of facts and ranks with Bernard's famous work on the same subject.

Many other equally-important problems in physiology and physiologic chemistry were solved by Kühne and his pupils. Kühne was also widely known as the co-editor of the "*Zeitschrift für Biologie*" which in connection with Prof. Karl Voigt of Munich he maintained as one of the highest exponents of scientific literature.

In person Professor Kühne was tall and portly, with a commanding presence, a magnificent large head and bright eyes. His personality was a strong one. He was universally liked for his personal qualities and—even in the highest scientific circles—esteemed for his unusual attainments.

ALBERT C. BARNES, M.D.

Heidelberg, June 18.

SELECTION.

THE EPIDEMIC OF ENTERIC FEVER AT BLOEMFONTEIN.¹

By A. CONAN DOYLE, M.D.

To the Editor of the British Medical Journal:

DEAR SIR: You were good enough to suggest when I left England that I should send you some notes upon any points which might strike me. The pressure of work has prevented me from complying with your request, and even now I feel that you will find these comments of a very scrappy character.

When the nation sums up its debt of gratitude to the men who have spent themselves in this war I fear that they will almost certainly ignore those who have done the hardest and the most essential work. There are three classes, as it seems to me, who have put in more solid and unremitting toil than any others. They are the commissariat, the railway men, and the medical orderlies. Of the three, the first two are the most essential, since the war cannot proceed without food and without railways. But the third is the most laborious, and infinitely the most dangerous.

¹ From the British Medical Jour., July 7, 1900.

The outbreak of enteric among the troops in South Africa was a calamity the magnitude of which had not been foreseen, and which even now is imperfectly appreciated. We naturally did not dwell too much upon it while the war was in progress. But it was appalling in its severity, both in quantity and quality. I know of no instance of such an epidemic in modern warfare. I have not had access to any official figures, but I believe that in one month there were from 10,000 to 12,000 men down with this, the most debilitating and lingering of continued fevers. I know that in one month 600 men were laid in the Bloemfontein Cemetery. A single day in this one town saw 40 deaths. These facts would have stiffened the resistance at Pretoria if they had been generally known. It is only now, when the worst is past, that they can be talked of.

How was this unforeseen and unprecedented crisis grappled with? Entirely by the efforts of the medical men and by the devotion of the orderlies. When a department is confronted by a task which demands four times more men than it has, the only way of meeting it is for each man to work four times as hard. This is exactly what occurred, and the crisis was met. In some of the general hospitals orderlies were on duty for thirty-six hours in forty-eight, and what their duties were—how sordid and obscene—let those who have been through such an epidemic tell.

He is not a picturesque figure, the orderly, as we know him. We have not the trim, well-nourished army man, but we have recruited from the St. John Ambulance men, who are drawn, in this particular instance, from the mill hands of a Northern town. They were not very strong to start with, and the poor fellows are ghastly now. There is none of the dash and glory of war about the sallow, tired men in the dingy khaki suits—which, for the sake of the public health, we will hope may never see England again. And yet they are patriots, these men; for many of them have accepted a smaller wage in order to take on these arduous duties, and they are facing danger for twelve hours of the twenty-four, just as real and much more repulsive than the scout who rides up to the strange kopje or the gunner who stands to his gun with a pom-pom quacking at him from the hill.

Let our statistics speak for themselves; and we make no claim to be more long-suffering than our neighbors. We have 3 on the staff (Mr. Gibbs, Mr. Scharlieb, and myself). Four started, but one left us early in the proceedings. We have had 6 nurses, 5 dressers, 1 wardmaster, 1 washerman, and 18 orderlies, or 31 in all, who actually came in contact with the sick. Out of the 6 nurses, 1 has died and 3 others have had enteric. Of the 5 dressers, 2 have had severe enteric. The wardmaster has spent a fortnight in bed with veld sores. The washerman has enteric. Of the 18 orderlies, 1 is dead, and 8 others are down with enteric. So that out of a total of 34 we have 17 casualties—50 per cent.—in nine weeks. Two are dead, and the rest incapacitated for the cam-

paign, since a man whose heart has been cooked by a temperature over 103° is not likely to do hard work for another three months. If the war lasts nine more weeks it will be interesting to see how many are left of the original personnel. When the scouts and the Lancers and the other picturesque people ride in procession through London, have a thought for the sallow orderly, who has also given of his best for his country. He is not a fancy man—you do not find them in enteric wards—but for solid work and quiet courage you will not beat him in all that gallant army.

There is one mistake which we have made, and it is one which will not, I think, be repeated in any subsequent campaign. Inoculation for enteric was not made compulsory. If it had been so I believe that we should (and, what is more important, the army would) have escaped from most of its troubles. No doubt the matter will be fully threshed out in statistics, but our strong impression, from our own experience, is that although it is by no means an absolute preventive, it certainly modifies the course of the disease very materially. We have had no death yet (*absit omen*) from among the inoculated, and more than once we have diagnosed the inoculation from the temperature chart before being informed of it. Of our own personnel only one inoculated man has had it, and his case was certainly modified very favorably by the inoculation.

Of the courage and patience of the soldiers in hospital it is impossible to speak too highly. We have had 500 cases pass through our hands, and can speak now from a fairly large experience. I had always imagined that in every large army there must be a minority of skulkers and shirkers, but they are singularly absent in the South African field force. I have not had more than two or three cases in my wards which bore a suspicion of malingering, and my colleagues say the same. They are uniformly patient, docile, and cheerful, with an inextinguishable hope of "getting to Pretoria." There is a gallantry even about their delirium, for their delusion continually is that they have won the Victoria Cross. One patient, whom I found the other day rummaging under his pillow, informed me that he was looking for "his two Victoria Crosses." Very touching also is their care of each other. The bond which unites two soldier pals is one of the most sacred kind. One man shot in three places was being carried into Mr. Gibbs' ward. I lent an arm to his friend, shot through the leg, who limped behind him. "I want to be next Jim, 'cos I'm lookin' after him," said he. That he needed looking after himself seemed never to have occurred to him.

I do not think that any men have ever expended money better than those who fitted out the private hospitals. The officers of the Army Medical Department freely admit that they do not know what they would have done without their aid. They arrived out here at the very moment when the sickness was becoming alarming, and they took their share of the strain when the epidemic

was at its height. The large general hospitals found it difficult to get to work on account of the pressure on the line which prevented them from getting up their bulky equipment, but the private hospitals, more compact and mobile, got to work almost at once after their arrival. The pressure was severe. Our own hospital, with equipment and personnel for 100 cases, had 150 cases, most of them virulent Paardeburg enterics, shot upon them, and had to cope with them as best they might. But the men who had come out to work, and the orderlies, though untrained, never once grumbled at the great exertions which were called for. Without the Yeomanry, the Portland, the Irish, the Scotch, the Welsh, and the other hospitals fitted up by private effort, and manned by volunteers, it is difficult to see how the epidemic could have been met.

There is sure to be some adverse criticism of the Army Medical Department after the war, because they have had to meet so difficult a situation with such inadequate resources that it is impossible that there should not be particular instances where the machinery has broken down. A captious critic could quote cases of an overfilled, undermanned hospital without medical necessities in one place, or of hardships endured by the sick and wounded in another. How can it be otherwise, when a Department which is sufficient for the needs of two army corps has to provide for the wants of 200,000 men with typhoid raging among them? Taking it on the whole, the Department has been well organized and well worked, and has met an unforeseen and exceptional state of things with remarkable success.

The statistics of the campaign are likely to be vitiated by the employment of the vague and unscientific term, "simple continued fever," so largely used in the army returns. A great number of cases were classed under this head, and such terms as "veld fever," "camp fever," etc., were freely used. I think that nearly all medical men have come to the conclusion that all, or at least most, of these cases were really enteric of varying types and degrees of severity. Our senior surgeon, Mr. Gibbs, performed post-mortems on several cases which presented abnormal features, but never without finding the characteristic ulcers.

A. CONAN DOYLE.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, July 12, 1900.

THE ARMY HOSPITAL SCANDALS IN SOUTH AFRICA—SOLDIERS ILL WITH TYPHOID FEVER LYING ON THE GROUND IN MUD—DELIRIOUS PATIENTS WANDERING ABOUT THE CAMP—INCREASING RECOGNITION OF THE WORK OF MEDICAL WOMEN—OPPOSITION TO THE MIDWIVES' BILL—PHOTOTHERAPY AT THE LONDON HOSPITAL.

A LONG letter addressed to the *Times* by Mr.

Burdett-Coutts, M.P., who has recently returned from South Africa, indicting in a most scathing manner the medical arrangements, has fallen like a thunder-clap on the British public. As I have already informed you, nothing but praise and satisfaction had been previously expressed. In a war which in its early stages was so full of military disasters and which has led to free criticisms, official and other, of the military operations, the one branch of the service that was declared beyond criticism was the Army Medical Department. According to Mr. Burdett-Coutts there are 20,000 sick and wounded troops in South Africa and more than half of these are down with typhoid. He visited a field hospital which had accommodations for fifty patients and found 250 instead, of which ninety were suffering from typhoid fever. "Men lay with their faces covered with flies in black clusters, too weak to raise a hand to brush them off, and there was no one to do it for them. At night there were not enough orderlies to prevent delirious patients from getting up and wandering about the camp half naked in the bitter cold." The order came to evacuate the hospital. Twenty of the worst cases of typhoid fever were removed to a more permanent hospital a mile and a half off. The patients were put on rough ox-wagons and then jolted across the veldt, which was much broken by spruits and gullies. One patient was suffering from hemorrhage at the time. In another hospital hundreds of men in the worst stages of typhoid lay on the ground, some of them in three inches of mud, with only a blanket and a thin water-proof sheet (not even the latter in many cases), with no milk, and hardly any medicines, without beds, stretchers, mattresses, pillows, or linen of any kind, without a single nurse and with only a few ordinary soldiers to act as orderlies. There were none of the conditions of a forced march. It was a mile from Bloemfontein, a large town which the British had occupied six weeks, with a line of railway to two seaports, along which thousands of troops and countless trainloads of stores and equipments of all kinds for every one, except the sick, had been moving up during the whole of the leisurely halting time.

The Government's answer to these charges has been delivered in the House of Commons by Mr. Wyndham. He admitted that the sick and wounded in this campaign—as he believed in every other—had been exposed to terrible hardships. But there had been no deliberate case of stinting; the Treasury had lavishly given even to the extent of generosity. There were now employed in South Africa 446 army medical doctors, 348 civil doctors, 7 consultants, and 52 doctors were available in civilian hospitals. There were 12 general hospitals, 5 stationary, 31 field, and 10 special (organized by civilians), which provided a total of 18,840 beds. Down to the most recent period there was an excess of beds; 10 per cent. bed accommodation was provided for the whole force. The case mortality of typhoid fever was 21 per cent., which compared

favorably with that of other campaigns. In the Nile campaign of 1898 it was 28; in the Dongola campaign of 1896, 50; in the Matabele War of 1896-7, 32; in the Chitral campaign of 1895, 28; and in the Soudan campaign of 1884-5, 39. Even in times of peace in the military hospitals it was 20.4. Hon. Mr. Burdett-Coutts' revelations led to a request of the Government for information from Lord Roberts. The Commander-in-Chief points out in his reply that a very large number of sick had to be provided for, and that the very existence of his large force depended on supplies coming on a line of rail 900 miles long, every bridge of which for the last 128 miles had been destroyed. He suggests that the Government should appoint a commission to inquire into the medical arrangements.

The result of the whole affair has left a very painful impression on the public, for no attempt has been made to answer Mr. Burdett-Coutts' exceedingly definite charges. The defence has merely consisted in insisting on the difficulties of the campaign, and on the statements of the distinguished civilian consultants who went to South Africa that the arrangements were admirable, and on the absence of complaints from all the numerous war correspondents. On this last point Mr. Burdett-Coutts very reasonably says that the lot of any correspondent who sent such news would not be enviable. So the question rests for the present.

The increasing public recognition of the work of qualified medical women is strongly evidenced in the last report of the London School of Medicine for Women. The number of students now in attendance is 197. Since January, 1899, 20 have qualified, 5 of whom will take up missionary work. Twenty-eight former students of the school have been appointed during the past year to posts in various hospitals and infirmaries in London and the provinces. Further, the board of the Royal Free Hospital has unanimously decided to appoint two qualified medical women as resident medical officers.

The opponents of the Midwives' Bill have scored a success: they have "talked it out" in the House of Commons, which means that the only time available for passing the third reading in the present session has been wasted in discussion. The gentlemen who led the opposition retailed a number of silly irrelevant arguments, such as: that the bill was contrary to the tendency of recent legislation, which was to insist upon a higher medical standard, and that in almost every case abnormal symptoms might arise so that it was necessary that somebody should be present who was qualified not only in midwifery but also in medicine and surgery. How this gentleman proposes to provide the "somebody qualified" for more than half the labors which take place in this country and are attended by midwives, he did not condescend to say; nor did he mention what are the advantages of women being attended by ignorant and untrained, instead of properly trained midwives. However, the promoters of

the bill are sparing no effort. A memorial in its favor has been presented to Mr. Balfour, signed by a large number of medical men engaged in the practice of obstetrics, including the President of the Royal College of Physicians, Sir W. Wilks; Sir W. Broadbent, Sir John Williams, Dr. Playfair, and Mr. Jonathan Hutchinson. It is also signed by 100 medical officers of health, 137 coroners and some well-known clergy and representatives of several women's political institutions.

A "Light Department" has been installed at the London Hospital for the treatment of lupus and other skin diseases according to the method of Prof. Finsen of Copenhagen. The principle of the method depends on the fact that the chemical rays of the spectrum are bactericidal and can penetrate the skin. They must be concentrated on the skin, which is rendered possible by excluding the burning (ultra-red) rays. A hollow plano-convex lens containing a blue solution of sulphate of copper is used. The solution absorbs the caloric and red rays. Further cooling is effected by another hollow plano-convex lens through which water constantly circulates. The rays are focused on the skin by the former and pass through the latter, which is placed in contact with the skin and exerts pressure on the area to be treated, thus rendering it anemic, which facilitates penetration of the chemical rays. If sunlight is not available an electric lamp of 50 to 80 amperes is used. The whole installation has cost £500; the apparatus was presented to the hospital by the Princess of Wales. The patients while under treatment recline on light, movable couches or sit in rocking-chairs, which can be tilted to any angle. A nurse, sitting on a high stool, presses the cooling lens on the area to be treated. Her hands and the lens are carefully sterilized after each sitting. The results cannot yet be stated.

OUR PARIS LETTER.

[From Our Special Correspondent.]

PARIS, July 11, 1900.

THE POZZI-DEVILLERS DUEL—RHYTHMIC COMPRESSION OF THE HEART AS A MEANS OF SAVING LIFE.

SOME facts about the Pozzi-Deville's duel have already been published, but it may be interesting to recount some of the minor details. The trouble originated in the following manner: Dr. Pozzi, as curator, was obliged to attend the meetings of the Senate during the progress of the Déroulède trial, though personally he would gladly have had nothing to do with the matter. Déroulède was condemned to banishment, and, of course, all nationalists were bitterly incensed against the Senate. At a recent social gathering at the Club Médical in the Avenue de l'Opéra, Dr. Devillers, Déroulède's physician, upbraided Dr. Pozzi for his conduct toward his client, and

Pozzi put him off by saying that a medical club was not a fit place for discussing politics. Dr. Devillers thereupon threw his glove in Dr. Pozzi's face, and, on the latter saying that the man could not be held accountable for his actions, broke forth into most violent language. A duel was decided on and Pozzi was wounded in the right hand immediately after the swords were crossed. The two opponents shook hands and the general opinion was that the *affaire* was safely ended. It seems, however, that a legal prosecution will be instituted by the Government against Dr. Devillers for assault of a magistrate, and Dr. Doleris told me yesterday that he would be obliged to see the juge d'instruction to-day, as he is one of the witnesses, being the secretary of the medical club. Dr. Pozzi would have preferred that no attention be paid to Devillers' actions.

The plague has caused some anxiety in Paris, but as the weeks go by everything is going off so smoothly and the Exposition is proving such a success that the plague is no longer discussed. At Marseilles a premium of five centimes for every rat killed or given up alive and half that sum for every mouse will be paid on delivery at the municipal office at Marseilles. The population of Marseilles does not consider rat-catching a lucrative employment, as so far in two weeks' time only 686 rats and some 200 mice had been disposed of.

At a recent meeting of the Academy of Sciences, a most interesting paper on the use of rhythmic compression of the heart in cases of prolonged syncope was read by Drs. Tuffier and Hannion. Dr. Battelli had already studied this means of bringing dogs back to life when the action of the heart had been stopped by electrification, suffocation or chloroformization. In carrying out these experiments, Dr. Battelli made a sort of flap in the chest, seized the heart and determined a rhythmic compression of the ventricles. The dogs were brought to life for a space of time which, however, never exceeded twenty-two hours. In 1898 Dr. Tuffier carried out similar experiments, bringing back to life definitely two dogs in which complete syncope had been produced by chloroformization. This treatment was carried out four days after the operation on a man suffering from appendicitis. The heart having stopped beating, artificial respiration and rhythmic tractions of the tongue were tried in vain. As Dr. Tuffier obtained no result, he opened the third intercostal space and after separating the pericardium compressed the ventricles sixty to eighty times. The arterial pulsation then became perceptible, the patient opened his eyes, moved his head, looked around him, recognized his physician; after two or three minutes the pulse grew feebler, then stopped. New contractions were induced, but the result was of short duration, and the third time no change was perceptible. On performing the autopsy a clot was found in the left branch of the pulmonary artery. Dr. Tuffier added that it would be interesting to know how long this treatment

might be applied with some fair show of success, and when one should abandon all hope of producing a result.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

SEVERE CYSTITIS—EMBOLISM OF THE SIGMOID SINUS—BACTERIOLOGY OF SCARLATINA—ANGINA AND PURPURA RHEUMATICA—HEART IN SYPHILIS—ANKYLOSIS OF THE VERTEBRAL COLUMN.

HILLMANN, at the meeting of the Medical and Natural Science Society at Jena, held February 22d, reported a case of severe cystitis due to a foreign body which had found its way from the adjoining parts into the bladder. In addition to the anatomical arrangement in women which by a short urethra and its relation to the vagina facilitates the mechanical carrying of infected matter, the author points out that neighboring pathological conditions may also be the cause of cystitis, such as cyst sacs, dermoid cysts, echinococcus foci. Further, purulent masses may rupture into the cavity of the bladder and by carrying detritus and germs into it set up slight or grave infection of the mucosa. Gonorrhea is a potent cause. In the case reported a bad catarrh was characterized by the repeated discharge of concretions in the centers of which were always little bits of thread. Since the patient had had a double pyosalpinx operated on by the vaginal route some time previously, it was assumed that a suture line was the cause. Exploration of the vagina through the old scar showed nothing, but after stretching and splitting the urethra a piece of gauze was removed which was probably a packing left after the first operation. Prompt full recovery followed.

MEIER, at the Medical Society of Magdeburg, April 5th, related the history of a case of an embolism in the sigmoid sinus. While rare it has been the cause of death, as reported by Kuhn and as in the author's own experience. During an operation for an otitis and an abscess about this sinus, a bone splinter broke into the channel and air rushed in with a hissing noise. Cyanosis, cardiac and respiratory arrest and collapse followed. Traction on the tongue, artificial respiration and cardiac stimulation finally revived the patient. At present he never attempts to operate on these cases without cutting off the blood-current by gauze packing between the bone and the sinus. In three subsequent cases this had succeeded.

KRETSCHMANN in the discussion pointed out that a freely-exposed field rarely results in infection of the meninges. Whether an infected thrombus of one of the large venous sinuses lies always at the bottom of a sickness with the picture of *pneumia* is a difficult question to decide, but one which is worthy of research. When the cranium is widely laid open the symptom of slow pulse in case of abscess of the brain loses its

force because the pressure finds relief in the removal of the bony vault.

The entrance of air into the sinus probably happens often without damage because the quantity is not great.

MEIER disagreed with Kretschmann, stating that slowness and irregularities in pulse are valuable guides to intracranial abscess. When pus within the brain is suspected approach to it is usually best along the line of its own progress; hence, he prefers to start from the petrous portion of the temporal bone. Whether a purulent thrombosis is always at the bottom of a pyemic picture he doubts, but stated that it occurs so often as to render exploration of the sinus justifiable. An abscess about the sinus might well set up such a picture and then its evacuation would cure; it is better to incise the channel-wall than remain in doubt and lose the patient.

A. BAGINSKY at the Berlin Medical Society, June 13th, reviewed the history of the bacteriology of scarlatina, from which he claimed that various authors had with more or less regularity and with more or less etiological significance found the streptococcus in scarlatina, either in the throat or in the internal organs. In 362 cases the speaker had always found it and in 42 autopsies had not the least difficulty in demonstrating it in the blood, other body fluids and viscera. During life he had found it in the cerebrospinal fluid of a patient in whom secondary infection was out of the question. The effect of these streptococci on animals was various. With serum from convalescents no agglutination tests were successful. Under no circumstances did he wish to claim that these streptococci are the exciters of the scarlet fever, but he did wish to point out that they were a constant factor even in cases in which secondary infection could not be claimed. HEUBNER during the discussion pointed out that the author had advanced nothing new, but had furnished the interesting fact that the streptococcus was found in all his cases. In his own clinic he had been able to find it in about 200 consecutive examinations. He himself could see no causal relation between this germ and scarlet fever. He begged to note that the speaker had done as most other authors and classed scarlatina among the toxic states. With this he could not agree.

SLAWYK reported that the only cases out of about 200 in which he failed to find streptococci were the very brief twenty-four- to forty-eight-hour cases, numbering perhaps a dozen.

WASSERMANN said the cause of all exanthems is still in the dark and referred to the exhaustive researches of Loeffler in mouth- and hoof-distemper among cattle in which the bacteria were found to be very much smaller than any known and almost on the borders of uncertainty of recognition. In the same way the germ causing peripneumonia in cattle is not distinguishable, yet Nocard has infected healthy animals with the disease by filling collodium capsules with the serum and sewing them beneath the skin.

A. BRUCK referred to the discussion at a previous session as to the relation between angina and rheumatic arthritis and angina and endocarditis, and went on to narrate several clinical histories showing a similar apparent dependence between angina and purpura rheumatica.

VON LEYDEN at the session of the Berlin Society for Internal Medicine, June 11th, exhibited the heart of a twenty-eight-year-old male who during the last two months of life had complained of cardiac pain and suddenly fallen dead. On section were found hypertrophy of both ventricles, fibrous myocarditis, peri-arteritis, thrombosis of minute cardiac vessels, aneurysma cordis, but no lesion of the coronary arteries. In spite of the negative history the author considered lues at the back of it, especially in the light of another case in which lues had produced advanced myocarditis in a young man.

LITTEN reported advanced high-grade endocarditis at autopsy following influenza during the last epidemic.

A. FRAENKEL repeated the dependence between syphilis and aneurism of the large vessels and in contrast to the speaker could not see why syphilis should affect the small vessels of the heart only. First it works a change in the vessel-walls, diminishes elasticity and finally leads to the giving way under the blood-pressure.

LEYDEN stated in reply that syphilis changes the small vessel-walls so that thrombosis occurs and thereafter heart-changes follow. He could not understand, however, why syphilis causes dilatation without previous ulceration.

GLASER demonstrated a total ankylosis of the vertebral column in a patient dead of hemoptysis, with deformity of the articulations of the jaw, of the knee with firm stiffening, and of the hips to a slight, not positive degree. The case did not appear to belong either to the type of Pierre Marie-Struempell or to that of Bechterew.

FRAENKEL expressed the conviction that this case was purely one of severe local invasion of a general arthritis deformans.

SOCIETY PROCEEDINGS.

AMERICAN PROCTOLOGICAL SOCIETY.

Second Annual Meeting, Held at Washington, D. C., May 2-3, 1900.

President's Address.—Dr. Joseph M. Mathews, Louisville: The bane of specialism to-day is the "blooming out" of a class of men to practise specialties who have no practical knowledge of the same. Such action should receive the strongest censure from the entire profession. I take it that the object of this assembling together is mainly to encourage the better understanding of the diseases of the rectum by the reading of papers and the free discussion of the same. If you will per-

mit me, I would suggest that the membership be made up of those who desire a better knowledge of proctological subjects, whether he be a general or special surgeon, a gynecologist or obstetrician. Indeed it is by the diffusion of such knowledge in a general way that the profession is to profit. Considered from a special standpoint it might be well to try and demonstrate that it is just as difficult to excise a rectum as it is to remove an ovary; that it requires as much surgical knowledge to anastomose the colon around a stricture as it does to sew up a lacerated perineum; to do a colopexia as to remove a fibroid tumor; or to do a colostomy properly as to do a trachelorrhaphy.

Excision of the Rectum Through the Vagina.—

Dr. S. T. Earle, Jr., Baltimore: The case was one of adenocarcinoma; there were about five inches of the rectum removed, the centrifugal end of the rectum was drawn down, and stitched to the anal margin, the vaginal and perineal incision was closed and united by first intention. The results were most satisfactory, and the patient has fair control of her evacuations.

Unique Cases of Rectal Surgery.—Dr. Samuel G. Gant, New York: (1) Congenital Absence of the Coccyx and Lower Sacral Vertebra. This case was referred to Dr. Gant to be treated for anal fissure. He was thirty-five years old and a very strong man. Examination revealed the absence of the coccyx and lower sacral vertebra which made the broad end of the bone stand out and easily noticeable through the skin because of the fact that the tissues below it were drooped inward, making a concavity large enough to hold a goose egg. He had been that way since birth, but had suffered no inconvenience from it, having perfect control over his bladder and anus. The fissure was relieved by divulsing the sphincter, incising the rent, and stimulating it thereafter with a mild silver solution. (2) Stricture of Rectum in a Little Girl Eleven Months Old Caused by Swallowing an Open Safety-Pin. This case is of unusual interest because of the child's age. At the time the pin was swallowed it caused considerable pain and suffocation. It was passed embedded in a mass of fecal matter just one month later. Several days preceding this she suffered great agony and passed frequent bloody stools. From this time on the child continued to have bowel trouble, suffering from constipation, occasional diarrhea, and the discharge of pus, blood and mucus with the stools. Digital examination revealed a tight stricture three inches above the anus which appeared to be the result of inflammatory action and adhesions. It was easily dilated with first one and then two fingers. The ulceration was curetted, the rectum irrigated, and the little patient sent home. After-treatment consisted of stimulating applications and occasional divulsion with the finger. This little patient was discharged cured in eight weeks. (3) Closure of Artificial Anus of More Than Three Years' Duration. A left inguinal colostomy was made in

the case of a young woman, eighteen years of age, suffering from tubercular ulceration which would not succumb to less radical means. As a result of treatment, local and general, she fully recovered in a year, having in the meantime supported herself as a waitress. She desired the opening closed but was advised to wait. Three years from the time the operation was made she became engaged to be married and insisted upon the closing of the opening in the side. Thorough examination demonstrated that the ulceration had healed and further that there was no constriction of the bowel. A No. 10 Wales bougie passed through the anus and out at the anal aperture in the groin. The opening was included in two elliptical incisions which were carried inward until the bowel was separated from the parietes. Because of the spur both legs of the original loop were firmly adherent and required resection. A purse-string suture was thrown around each, a Murphy button inserted and locked, and the gut dropped into the abdominal cavity. Peritoneum, muscles and skin were united with catgut. Primary union resulted, the button passed on the tenth day, and the patient left the hospital at the end of three weeks. This patient made a complete recovery. She was under observation for two years after the closure and her bowels moved naturally during this time.

Submucous Ligature for Hemorrhoids.—Dr. B. Merrill Ricketts of Cincinnati: A large needle is made to describe more than a semicircle, carrying a moderate-sized kangaroo-tendon submucously around the varices which occupy the rectum as much as three inches above the mucocutaneous border. The three hemorrhoidal vessels, arterial and venous, enter the rectum and perforate the rectal muscular tissue about three and a half inches above the sphincter ani. Great difficulty has been experienced in passing the needle to complete the entire circle submucously. To overcome this the needle is brought out at a point corresponding to one-half of the circle, again to enter at its point of exit and then to pass out at the point of primary entrance. In cases of but one or two hemorrhoids one ligature of this character is sufficient. If there are many hemorrhoids occupying the entire circumference of the rectum as many of these submucous ligatures may be applied as necessary. Then, too, it is not necessary to incorporate all of the varices within the ligature, because many of those which are not so constricted by the ligature will become so as a result of the trophic changes which ensue. Sometimes it will be found most convenient to introduce all of the ligatures before making them taut. By doing this the introduction of the needle is made with greater ease. Before this work is attempted the sphincter ani should be divulsed to the fullest degree with the finger. Divulsion once completed, the hemorrhoids will at once protrude, and are most easily encircled by the ligature. As soon as the ligatures are made taut the hemorrhoids are inverted into the rectum. Sometimes it is desirable to puncture some

of the larger hemorrhoids that the distention may not be so great and for the purpose of lessening the amount of hypertrophied tissue within the rectum. After a few weeks atrophy has taken place to such a degree as to allow the sphincter ani to resume its normal tonicity and to have completely destroyed all the objectionable varices which formerly existed. The advantages of this operation are: First, the impossibility of secondary hemorrhage; second, there is no tissue destroyed or sacrificed; third, the loss of time is but little, if any, greater than when they are removed by the clamp and cautery; fourth, thus far there has been no infection; fifth, there have been no fistula, abscess or fissures resulting therefrom; sixth, the pain is no greater, and less, perhaps, than in other methods of ligaturing; seventh, there is absolutely no stenosis.

Temporary Artificial Anus.—Dr. Jas. P. Tuttle, New York: Indications for temporary artificial anus: (1) Obstruction with removable cause. (2) In cases of excision of the rectum where sphincter is involved. (3) In intractable ulceration of the rectum. (4) In stricture of the rectum with large area of ulceration which does not readily yield to local treatment. (5) In neoplasms in the sigmoid and colon that cannot be found through the rectum. (6) In malformations and imperforate rectums, where the gut cannot be easily found in the perineum. (7) In chronic membranous colitis; (8) In certain forms of rectovesical, rectovaginal and rectourethral fistulas. With these numerous and clear indications, the operation is comparatively seldom recommended, because of prejudice against it and the false impression that once one has an artificial anus he must always have it. Doctors hesitate to advise it, because they know that by the older methods closure is uncertain, and more dangerous than the operation or the disease for which it is made. The operation advised is a modification of the Rectus-Maydl method. It is quick, simple, effectual. The opening is made by a T-shaped incision, in such a manner that the transverse flap falls into the distal, and effectually closes it, while the two triangular ones roll outward and curl up like a dry leaf, thus leaving free exit from proximal leg of convolution. No part of the gut is removed or destroyed. The closure is made by simply unrolling and suturing back into position these flaps, first with sutures through mucous membrane and then with Lembert sutures of chromicised catgut. After the gut is thus closed, the partial parietal peritoneum is dissected away for an inch or more all around the abdominal incision, so that the gut will drop back into the abdomen, but not into the peritoneal cavity, thus eradicating the spur. The muscular fascia and skin are then sutured over the gut with silkwormgut.

Chronic Interstitial Proctitis.—J. Rawson Pennington, Chicago: He demonstrated that the sigmoid flexure in the distended state frequently extends into and occupies the right iliac fossa; also conclusive evidence of the existence of the rectal

valve and its structure. He claims that deformity of the rectal valve and hypertrophy of its muscular layers are the two principal primitive causes of obstinate constipation. He exhibited his automatic valve clip for dividing these structures when pathologic.

Demonstration of the Rectal Valves.—Dr. Thos. Chas. Martin, Cleveland: Without the use of anesthetic by means of his chair, the subject was put into a posture equivalent to the kneechest posture, the rectum inflated and its entire length exposed to view. The rectal valves were rendered conspicuously visible and palpable to the members of the Society and the fact of their existence generally agreed upon.

New Radical Operation for Valvular Obstipation.—Dr. Thos. Chas. Martin, Cleveland: A normal valve may be effaced under pressure of the test-hook. A valve situated on the fixed posterior wall of the rectum is much more obstructive than is one situated on the anterior wall, for the reason that the descent and backward excursion of the anterior rectal wall places the feces more securely in the pocket afforded by a posterior valve. A valve situated on the anterior wall, if of the same condition and dimension as one situated on the posterior wall, is less obstructive to defecation for the reason that the backward and downward excursion of the rectal wall throws the feces out of the valve-pocket and over its free border. If the number of the valves be more than the normal three, it can be readily understood that such an addition of obstructive features increases the obstruction. For instance, four or five relatively shallow valves placed close together are more obstructive than are two somewhat deeper valves if these two valves are placed at some distance from one another. Anatomic coarctation or physiologic juxtaposition of the valves may contribute to the establishment of obstipation whether the valves be diseased or not. If two valves are so closely situated that their borders are seen to overlap, or if it is seen that on the patient's bearing down two valves then overlap, it may be assumed that these valves constitute an obstruction to defecation. A valve situated at a direct right angle to the axis of the rectum is more obstructive than one that is obliquely situated. However, an oblique valve may contribute to the establishment of an obstruction in a transverse valve immediately below it, for the reason that the oblique valve may deflect the fecal column directly into the pocket formed by the next lower and transversely-situated valve. (1) The resistance which any given valve affords to the test-hook; (2) propinquity of other valves to a given valve, and (3) the direction of the valves next above a given valve, together with (4) the number of valves in the rectum, and (5) the precise situation and direction of each valve, are all features which should be studied as possible component factors which contribute to the obstipation. Hypertrophy of the rectal valve due to a rectitis, local or general, is character-

ized by evident thickening of the free border of the valve. Fibrosis of the rectal valve is not characterized by an increased size of the valve, although its resistance to the hook may be as great as in the case of the hypertrophied valve. There is always noticeable in cases of valvular obstruction a very conspicuous redness of the mucous membrane which begins at the obstructing valve and extends downward toward the anus. The rectal mucosa above the obstructing valve is usually of pale color except in those cases where there is invagination of the upper gut. Dr. Martin then outlined his operation for division of the valve and detailed the precautionary measures to be employed to insure safety and secure success.

Mooted Questions in Proctology.—Dr. A. B. Cook, Nashville: He called attention to a number of the more prominent points of disagreement among proctologists. These were (1) Anatomy; the existence of the rectal valves are not yet generally admitted, when in truth they constitute the most conspicuous features of the normal rectum. (2) Physiology; many points in this connection are yet to be worked out. The mechanics of defecation is a much-disputed subject. (3) Pruritus ani: Is this a disease or merely a symptom? The etymology of the term itself offers the readiest solution of the problem. Pruritus means simply *itching* and itching can not be regarded as other than a symptom. Although sometimes difficult to locate the lesion which gives rise to it, it is practically always a macroscopic one. In searching for it the reflexes are to be borne in mind. (4) Simple ulceration; one prominent author (Mathews) states that this disease located above the sphincter muscle is a very uncommon one. Dr. Cooke's experience has been the very opposite. This difference of opinion is probably due to different conceptions of the meaning of the word. Properly considered, ulceration and ulcer are synonymous terms, and the rectal ampulla a frequent site of such disease process. (5) Benign stricture; the author called attention to the different views held as to the frequency of syphilis as a causative factor. Sixty per cent. is far too high an estimate. The rectal valves have much to do with the etiology of this disease. (6) Cancer; discussion of this disease was limited to the question of the justifiability of colostomy as a means of prolonging life and giving comfort. As compared with the hypodermic syringe, the author deems it greatly to be preferred, and, when total extirpation is impossible, strongly advises resort to this procedure.

Pruritus Ani.—Dr. L. H. Adler, Jr., Philadelphia: It is important to see that the patient has a daily evacuation of the bowels, and, if necessary, medicines are to be used for this purpose. In all cases, more or less varicosity of the hemorrhoidal vessels exists; at all events, I am in the habit of seeing the patient daily for a time, and I employ an injection of one or two-and-a-half drams into the cavity of the rectum of the following prescription: R Fluid extract of

hamamelis, 1 fluid-ounce; fluid-extract of ergot, 2 fluid-drams; fluid-extract of hydrastis, 2 fluid-drams; compound tincture of benzoïn, 2 fluid-drams; carbolic olive or linseed oil (carbolic acid, 5 per cent.), 1 fluid-ounce. M. Sig. Shake well before using. The patient is advised prior to using this injection that a desire to have the bowels evacuate will occur as a result of its employment, but that if he will remain quiet upon the examination-table, the sensation will quickly pass away. I paint the entire surface around the anus for several inches outward with a strong solution of nitrate of silver. If any break on the continuity of the skin exists as a result of previous scratching, a little of a two-per-cent. cocaine solution applied to the abrasion, will prevent the suffering incident to the use of the silver salt. In my experience the use of a strong silver solution is not nearly so painful, under the circumstances surrounding its use in the class of cases under consideration, as the weaker solutions. As soon as the silver has dried and from the first visit and thereafter, I smear over the anus and the cutaneous surface of the parts for a distance of about two inches around the orifice, the official citrine ointment or unguentum hydrargyri nitratis. The ointment I use in its full strength. Over the salve I place a wad of absorbent cotton, the quantity of cotton varying with the patient's wishes and comfort. The dressing is kept in place with a T-bandage. If the itching should annoy him during the night he is directed to bathe the anus with hot water, as hot as can be borne with comfort, but under no circumstances is he to rub the parts. He is also told that the application of the hot water will momentarily increase the itching, but that he is not to scratch. After he has used the water he is directed to use either a solution of black wash, *lotio nigra*, or, what is better in some cases, calomel ointment, either of which is to be applied locally to the affected parts.

Fistula.—Dr. Geo. B. Evans, Dayton: The inefficacy of all remedial measures except the knife for curing fistula still remains unquestioned, unless by inaccurate observers. A fistula which is not due to ulceration and perforation of the rectal wall from within is the result of a previous abscess, due to an inflammation, and that the result of traumatism. I have found sometimes fistula due to caries of the lower portion of the sacrum and the coccyx. I believe it to be as safe to operate on phthisical patients as upon others. During the past ten years there have been over six hundred phthisical patients admitted to St. Elizabeth Hospital, Dayton, O.; during the past six years I have operated on 198 cases of various rectal diseases in the charity wards; 42 have been for fistula; 7 of the 42 have been without doubt tubercular; 2 of the 7 died after several months of comparative comfort. In tuberculous patients the fistulous tract may never heal completely, or it may heal temporarily to open later and continue a free discharge. Under such circumstances the operation should be repeated.

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Stated Meeting, Held Saturday, March 24, 1900.

The President, John B. Walker, M.D., in the Chair.

Abscess of the Lingual Tonsil.—Dr. Frothingham presented a patient suffering from abscess beneath the lingual tonsil on the right side. While peritonsillar abscess is very common around the faucial tonsils, it is a rather rare condition in the lingual tonsil. The symptoms carry with them not a little that is alarming and the thought not infrequently comes to the practitioner, owing to the intense difficulty of breathing and swallowing, that there may be developing edema of the glottis. The condition is one of extreme discomfort. Its diagnosis depends on careful inspection with a laryngoscopic mirror. The fossa in front of the epiglottis and on either or both sides of the epiglottic ligament is found filled up with an inflammatory swelling. During the early stage of infiltration this is hard to the touch. Later on after suppuration has set in fluctuation may develop, but the patient's condition will be very much relieved by incision into the mass as soon as it is detected. Even if pus is not reached, the incision will do good.

Hysterectomy for Puerperal Infection.—Dr. Egbert Grandin said that lymphatic infection in a puerperal woman travels so rapidly that usually there is very little hope of operation being able to remove all the foci of infection. For this reason, although frequently tried, hysterectomy has never become popular. At the beginning of the septic condition there is some difficulty in deciding what form of infection is present. Sapremia often gives very marked symptoms. The invasion of saprophytes frequently cause the elaboration of toxin, the absorption of which produces serious constitutional symptoms. For sapremia, however, the curette and lavage usually suffice. Symptoms promptly disappear after the removal of the material within the uterus on which the saprophytes were being nourished. When instead of saprophytes the infection is due to the streptococcus, this micro-organism rapidly finds its way into the lymphatics. There is very little hope in ordinary cases that the whole focus of infection can then be removed even by extensive operation. In two recent cases, however, Dr. Grandin has succeeded in saving life by hysterectomy.

Lymphatic Infection.—In the first case Dr. Grandin, as consultant, was doing a curettement after an abortion that had been produced by unclean instruments. An intensely septic condition had developed and the uterine tissues had become very much softened. During the curettement the curette slipped through the softened decidua and the uterine tissue itself into the abdomen. This led to the performance of an abdominal section. After laparotomy the true condition, a complete septic involvement of the whole genital

apparatus, was found. There was pus in both tubes and the whole uterus was softened and flabby with layers of dirty fibrinous material on its serosa. Already infection of the abdominal cavity was beginning. The uterus and its adnexa were removed, and the abdomen thoroughly flushed out. Although the case seemed hopeless the patient recovered.

In the second case, three weeks after an abortion, the symptoms became so threatening that laparotomy was done as a last resort. The internal condition was even worse than in the preceding case. Shreds of lymph covered not only the uterus but also all the coils of the intestine lying in contact with it. The uterus itself was softened and the tissue almost ready to disintegrate. The broad ligaments were so soft that the sutures tore out again and again. In twenty-four hours after the removal of the uterus and tubes and ovaries the symptoms subsided. In this case streptococcus serum and the Credé ointment were used very freely in conjunction with the operation. The cause of the abatement of the symptoms, however, was undoubtedly the removal of the focus of infection. The other methods of treatment had been tried beforehand without any lasting results.

There is, then, a field for hysterectomy in puerperal sepsis although it may be a limited one. In advanced lymphatic infection it constitutes the only method of treatment that gives any assurance of saving the patient. The difficulty of diagnosis in these cases of lymphatic infection must be acknowledged. In order to be sure that it is not a sapremia that is causing the symptoms of general sepsis, it is necessary to investigate the inside of the uterus with the fingers. This should be done under anesthesia for a satisfactory examination cannot be made otherwise. In 99 per cent. of the cases examination of the interior of the uterus with the finger can be made without any preliminary dilatation. Where the inside of the uterus is found free from putrefying material and the symptoms of septic infection are severe, laparotomy offers the best chance to the patient and is amply justified by the seriousness of the condition present. The only hope, however, of radical cure in these cases lies in the performance of operation early, as lymphatic infection spreads very rapidly and if it has once gotten beyond the genital organs is surely fatal. Accurate diagnosis and prompt operation is the only thing that will save the patients in these serious cases.

Selection of Cases.—Dr. Henry C. Coe said that he thoroughly agrees with Dr. Grandin's suggestion as to operation for puerperal infection in selected cases. He approves fully of the principles that Dr. Grandin lays down as to the differentiation of the forms of puerperal sepsis and their indication for treatment. The difficulty lies in the selection of the proper cases to operate on. Usually operation is delayed so long that radical operation is useless. In the service at Bellevue most of the cases that are admitted to the hospital suffering from puerperal infection are cured

by curettement. Some of them already have peritonitis when admitted and then they are hopeless. An exploratory incision is certainly justified where the symptoms continue after the uterus has been thoroughly cleaned out. At times it will be found that the infection has spread not through the lymphatics, but through the Fallopian tubes. In a recent case under Dr. Coe's care after laparotomy, it was thought that the infectious material was limited to the uterus and tubes. The peritonitic symptoms continued after the operation, however, and the patient died. It is the custom in the text-books to separate metritis and endometritis sharply from one another. As a matter of fact no such clear distinction exists between the two processes either clinically or pathologically. Not infrequently we leave infected foci in the uterine wall after curettement. Once in Dr. Coe's experience, when a patient was being curetted for the second time, the curette slipped into a cavity from which there came a fetid pus. There seems to be no doubt that this was an abscess cavity in the uterine wall. This case had continued to have febrile temperature despite curettement and intra-uterine douching. Multiple abscesses not infrequently exist in the uterine walls. These cases are especially suitable for extirpation of the uterus. Dr. Coe agrees with Dr. Grandin that vaginal hysterectomy is not suited to these cases because it does not enable the surgeon to get a proper view of the field of operation so as to remove all suspicious-looking tissue. The abdominal exploratory incision as suggested is without doubt the most suitable for these cases.

Streptococcus Infection.—Dr. Brewer said that if the puerperal infection is due to the streptococcus and peritonitis has once begun, operation does no good. If the puerperal infection is due to certain germs of less virulence than the streptococcus, or is due to a mixed milder infection, hysterectomy may be of the very greatest service. The difficulty in these cases lies in the diagnosis. Cases due to ordinary mixed infection will often get well under simple treatment and curettement. Until more assured indications for operation are found there will very naturally be great hesitation in performing so serious an operation as hysterectomy at a time when it may do no good.

Dr. Coley emphasized the difficulty of diagnosis. He added that Dr. Richardson of Boston has expressed the opinion that operation in these cases is liable to cause a rapid spread of the infective material and so make the process more acute than it was before. Undoubtedly, however, there are some cases in which operation saves life.

Infrequent Mixed Infection.—Dr. Marx said that puerperal fever is very rarely due to mixed infection. In 95 per cent. of all cases of the disease it is due to the streptococcus. When streptococcus serum was first introduced into medicine there seemed to be good hope that the fatality of puerperal infection might be reduced by it. In 25 cases of pure streptococcus infection,

however, treated by Dr. Marx with Marmorek's serum all the patients died, and he will never use it again. The Credé ointment has seemed to be life-saving in one case. The case was one of sapremia, not due to retained secundines, but to a pseudomembranous affection of the uterus and vagina for which every remedy, including streptococcus serum, had been tried without any improvement. Twenty-four hours after the employment of the Credé ointment the local condition was improved. In forty-eight hours the constitutional symptoms had practically all disappeared. In one of the two cases reported by Dr. Grandin, in addition to the operation, the Credé ointment and streptococcus serum were used. Dr. Marx thinks that the use of the Credé ointment was an important element in the recovery. In another case in which certain septic symptoms had continued for eighteen days, operation was tried as a last resort but the patient did not recover. At the autopsy miliary abscesses were found in the lungs and liver although they had not been noticed at the time of the operation. In extreme cases laparotomy is undoubtedly justified, provided there are no metabolic abscesses, but it is difficult to determine this.

In a recent case seen by Dr. Marx the puerperal infection was really antepartum in origin. There had been chills and high fever before the birth of the child. In the uterine secretions streptococci and colon bacilli were found. This caused considerable surprise and a tentative diagnosis was made of communication between the intestines and the uterus. At the autopsy this proved to be the case. The base of an ulcer in the large intestine had contracted adhesions with the uterus and had gradually eaten its way into the uterine cavity. In a case like this hysterectomy would certainly do good. Severe cases of puerperal infection may, as is well known, recover even after all hope seems past, therefore the greatest care and watchfulness is needed in deciding as to the indications for hysterectomy. Especially must there be absolute assurance that there are no retained secundines within the uterus. More than once after the removal of a uterus it has been found full of foul-smelling secundines, which showed that the hysterectomy was unnecessary and that the infection might have been overcome by simple emptying of the uterus.

In concluding the discussion, Dr. Grandin said that while it is his custom to treat puerperal sepsis by ordinary methods, the object of his present paper was to show that there are some cases in which operation may prove of life-saving value. The ordinary practitioner, when septic infection declares itself, washes out the uterus and curettes on general principles and, if the symptoms do not abate, repeats these procedures. After two or three repetitions a consulting surgeon is called in and then, if the infection has been a lymphatic one, it is too late for radical operation. The lesson to be learned is that when there are pronounced symptoms of sepsis, careful examina-

tions should be made to decide just what the origin of the septic symptoms is. This can only be done by intra-uterine palpation under an anesthetic. If no intra-uterine cause can be found an exploratory laparotomy is indicated. It will not add to the danger of the case and it gives the patient an added chance for life. A more definite diagnosis than is now made of the true condition present should be reached even before the uterus is washed out.

Hodgkin's With Paraplegia.—Dr. John H. Huddleston reported a case of Hodgkin's disease that had developed in a woman of twenty-eight who had had three children, no miscarriages and no syphilitic history. The affection was complicated by paraplegia. Cervical, inguinal and axillary glands were enlarged as well as the spleen and the liver. The blood was normal. The paraplegia in the limbs had developed gradually. A numbness was noticed first and then paresis of the lower limbs which gradually increased to complete paralysis. Incontinence of urine then developed and bedsores were noticed. Sensation was gone up to the nipple-line. Osler reports such a case of Hodgkin's disease with paraplegia in which he considered that the explanation of the paralytic symptoms was the presence of enlarged glands on the spinal cord. This opinion is not easy to accept. It seems more rational to think that there are lymph deposits within the cord composed of material similar to that which is found in Hodgkin's disease in the liver and spleen.

Two Risks in Abdominal Surgery.—Dr. Henry C. Coe called attention to the fact that laparotomy after an attack of influenza is apt to be followed by bronchial pneumonia. In two cases recently admitted to Bellevue for laparotomy the patients were recovering from influenza. This was not, however, noted in the history, the patients themselves thinking it of no importance. After an operation they promptly developed bronchopneumonia, and inquiry revealed that they were convalescing from an attack of grip. This same complication has been noted before and now it is made a rule always to ask, especially during seasons of prevalence of influenza, whether patients have had any symptoms of the disease or not.

The second danger is illustrated by the following case: The patient was suffering from a simple fibroid of not very large size. The operation was considered not serious and did not last very long. It was conducted in the Trendelenburg position. During the operation there came an extremely offensive almost fecal discharge from the stomach. After the operation the patient developed bronchopneumonia and was dead in thirty-six hours. The stomach was carefully washed out and nothing abnormal was found in it. Thorough purging was employed immediately after the operation. It is probable that in this case antiperistalsis brought a quantity of intestinal contents from the lower part of the intestines into the stomach whence it was expelled

by vomiting. Some of the intestinal bacteria found their way into the lungs where they caused the development of pulmonary edema and so brought about the fatal termination.

Gall-Stones Simulate Cancer.—Dr. Coley reported a case of a woman, forty-eight years of age, who ten years ago suffered from pain in the epigastrium. This was intermittent and was sometimes very severe. The diagnosis was gastralgia. Last year the pain became much more frequent and the discomfort was so severe as to be almost unbearable. The woman lost forty pounds in three months and, although there was no bloody vomiting, some blood was noticed in the stools. The diagnosis of cancer seemed inevitable. An exploratory incision seemed justified and was made. Although no tumor could be felt, there was found an intensely contracted gall-bladder containing a stone the size of an English walnut and considerable pus. All of the symptoms had evidently been due to chronic empyema of the gall-bladder. After the incision the walls of the bladder were stitched to the abdominal wall and drainage established. The interesting feature of the case is that the woman lost thirty pounds as quickly as if she were suffering from malignant disease and the only reasonable diagnosis seemed to be cancer marasmus.

Diplococcus and Gonococcus.—Dr. Cabot reported a case of a man, forty-eight years of age, who presented himself with a free urethral discharge, not very purulent in character. The following day the discharge became more free but was never frankly purulent. There was some frequency of urination but no burning, but there was considerable discomfort in the perineum five days after the first symptoms. The man had never had gonorrhea and there had been no suspicious intercourse, in fact none at all for three weeks before the occurrence of the discharge. Examination of the secretion revealed what seemed to be gonococci. They were distinctly diplococcus in form and occurred within the cells of the secretion, but were slightly smaller than gonococci usually are. They discolored by Gram's method. They absolutely refused to grow on chest serum agar although gonococci grow in 95 per cent. of the cases on this culture medium. The patient had often been troubled with giant urticaria and angioneurotic edema. He was so liable to attacks of these troublesome conditions whenever any digestive disturbance occurred that he had finally come to restrict his diet mainly to milk and eggs. He was treated only with some ordinary potash solutions and after five or six days the discharge decreased. Palpation through the rectum showed that he had a sensitive and somewhat enlarged prostate. He had recently had an attack of gout and there is some question as to whether all of his urethral and prostatic symptoms are not due to the gouty diathesis and to the neurotic condition that underlies his frequent attacks of angioneurotic edema.

In the discussion Dr. Fuller said that it seemed probable that there is in this case an old purulent

focus in the prostatic region and that an acute exacerbation of this is causing the urethral discharge. There is no doubt that it is an extremely difficult problem to differentiate certain forms of the diplococcus from the gonococcus. The microscope alone is certainly not sufficient to enable us to make the differentiation. Where diplococci occur only outside of the cells they are almost surely not gonococci, but even where they occur within the cells and are decolorized by Gram's method it is still not absolutely certain in all cases that they are gonococci.

Dr. Cabot, in closing the discussion, said that the differentiation of the diplococcus and the gonococcus was not yet scientifically certain. There are undoubtedly difficulties yet remaining in the differentiation of certain forms of the diphtheria bacillus. Diphtheria bacilli are found that respond to all the ordinary bacteriologic tests except their lack of virulence and would seem to be true Klebs-Loeffler bacilli, yet are not. In the same way, a doubt still remains as to the pathogenic specificity of certain diplococci.

REVIEWS.

International Clinics. A Quarterly of Clinical Lectures on Medicine, Surgery, etc., and Specially Prepared Articles on Treatment and Drugs, by professors and lecturers in the leading medical colleges of the United States, Germany, Austria, France, Great Britain and Canada. Edited by JUDSON DALAND, M.D., Philadelphia. J. B. Lippincott Company, Philadelphia, January, 1900.

THIS volume of the *International Clinics* contains as many useful practical articles as the preceding numbers. Dr. Frederick P. Henry of Philadelphia has a special article on the treatment of pneumonia by hypodermoclysis, that is, by large hypodermic injections of normal salt solution. He reviews his experience with this method of treatment for the last ten years. Despite the many claims for priority made in this matter Dr. Henry seems to have been the first to employ hypodermoclysis (1889). It was first tried in a woman, sixty-three years of age, who had a severe form of pneumonia and whose general condition made her eminently unsuited to resist the disease. Although there was no marked crisis in the case convalescence began on the seventh day and the fever subsided by the most typical kind of lysis. As Dr. Henry remarks, while pneumonia treated by ordinary methods terminates by lysis, it does not do so on the seventh or ninth day. Altogether here are the notes of ten Blockley cases of pneumonia treated successfully by hypodermoclysis. As is well known, Blockley cases, occurring in paupers, alcoholics, tramps, etc., are the most unpromising possible, and the death-rate among them usually runs as high as 50 per cent. Dr. Alfred C. Haven illustrates a very practical method of

administering hydrotherapy in the homes of the poor. Now that hydrotherapeutic measures are looked upon with ever-increasing respect by the profession generally, Dr. Haven's methods are well worth considering. Dr. W. W. Bulette contributes a special article on the use of suprarenal extract in surgery of the ear, nose and throat.

This number of the *International Clinics* contains some twelve articles contributed by distinguished foreign clinicians. Some of their titles only can be quoted to show their thoroughly practical interest. From Sir Dyce Duckworth there is an article on "Morbid Proclivity of Diatheses"; Professor Friederich Mueller of Marburg has a clinic on "Bronchial Asthma"; Dr. Hermann Schlesinger of Vienna an article on "Stenosis of the Aorta Near the Duct of Botalli"; Professor Martius of Rostock has a very interesting contribution on the "Time of Heart Murmurs and the Significance of the Apex Beat." Professor Friederich Mosler of Griefswald contributes a clinic on "Central Pneumonia."

In neurology, especially, the foreign contributions are important. Professor Mendel of Berlin has an extremely practical article on "Cerebral Apoplexy." It is an unsurpassed review of this difficult and very practical subject for the general practitioner. Professor Pick's article on "Intracranial Gumma in the Frontal Region," and Professor Jolly's clinic on "Multiple Sclerosis with Cerebellar Symptoms and Cerebellar Tumors" are most suggestive reviews of very difficult subjects.

THERAPEUTIC HINTS.

Treatment of Tubercular Lesions by Nascent Iodine.—*Topai* of Rome recommends the following method in cases of tubercular adenitis, osteoperiostitis, arthrosynovitis, etc., it having yielded favorable results in his own practice. After anesthetizing the skin by a freezing application, a 3.6 per cent. solution of peroxide of hydrogen is injected hypodermically, drop by drop, into the affected area, the needle being moved in various directions. Leaving the needle in place, another syringe containing a 2 per cent. solution of potassium iodide is attached, and from 6 to 30 minims of this is injected. The needle is then withdrawn and the part is gently massaged. Metallic iodine is generated in the tissues upon which it has a marked curative action. The part becomes slightly swollen and is painful for a time. The treatment is repeated every four or five days, choosing a new place in case of an extensive lesion. For a fistula or abscess cavity, first the peroxide and then the potassium iodide solution is dropped into its depth through a drainage-tube.

No corrosive sublimate should be used either in connection with the lesion or the syringe, as its presence would lead to the formation of the biniodide.